



Interoffice Memo  
Office of Design Policy & Support

**DATE:** 9/19/2018

**FILE:** P.I.# 0013942  
Troup County GDOT District 3 - Thomaston  
SR 1/US 27 @ Long Cane Creek  
3.5 Miles SE of LaGrange -Bridge Replacement

**FROM:**  Brent Story, State Design Policy Engineer

**TO:** SEE DISTRIBUTION

**SUBJECT:** APPROVED CONCEPT REPORT

Attached is the approved Concept Report for the above subject project.

Attachment

Distribution:

Hiral Patel, Director of Engineering  
Joe Carpenter, Director of P3  
Albert Shelby, Director of Program Delivery  
Darryl VanMeter, Assistant Director of P3/State Innovative Delivery Administrator  
Kim Nesbitt, Program Delivery Administrator  
Bobby Hilliard, Program Control Administrator  
Paul Tanner, State Transportation Planning Administrator  
Eric Duff, State Environmental Administrator  
Bill DuVall, State Bridge Engineer  
Andrew Heath, State Traffic Engineer  
Angela Robinson, Financial Management Administrator  
Erik Rohde, State Project Review Engineer  
Monica Flournoy, State Materials Engineer  
Patrick Allen, State Utilities Engineer  
Eric Conklin, State Transportation Data Administrator  
Attn: Systems & Classification Branch  
Benny Walden, Statewide Location Bureau Chief  
Michael Presley, District Engineer  
Adam Smith, District Preconstruction Engineer  
Scott Parker, District Utilities Manager  
Malaika Faciane, Project Manager  
BOARD MEMBER - 3rd Congressional District

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
LIMITED SCOPE PROJECT CONCEPT REPORT**

Project Type:	Bridge Replacement	P.I. Number:	0013942
GDOT District:	003	County:	Troup
Federal Route Number:	US 27	State Route Number:	SR 1
	Project Number:		N/A

Replacement of a two lane bridge on SR 1/US 27 at Long Cane Creek 3.5 miles southeast of LaGrange in Troup County

\*\* Report updated on 7-27-2018 & on 8-6-2018 to address review comments

**Submitted for approval:**

*[Signature]* P.E. / Croy Engineering  
Consultant Designer & Firm or GDOT Concept/Design Phase Office Head & Office  
*Kimberly W. Y. J. J. J.*

5/23/2018  
Date 5/31/18

State Program Delivery Administrator

*[Signature]*  
GDOT Project Manager



Date 5/23/2018  
Date

\* Recommendations on file

**Recommendation for approval:**

\* Eric Duff/KLP

State Environmental Administrator

6-10-2018

Date

\* Christina Barry/KLP

State Traffic Engineer

6-19-2018

Date

\* Bill DuVall/KLP

State Bridge Engineer

7-21-2018

Date

\* Michael Presley/KLP

District Engineer

6-8-2018

Date

- ☐ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).
- ☒ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

*[Signature]*  
State Transportation Planning Administrator

6-18-18  
Date

**Approval:**

Concur:

*[Signature]*  
GDOT Director of Engineering

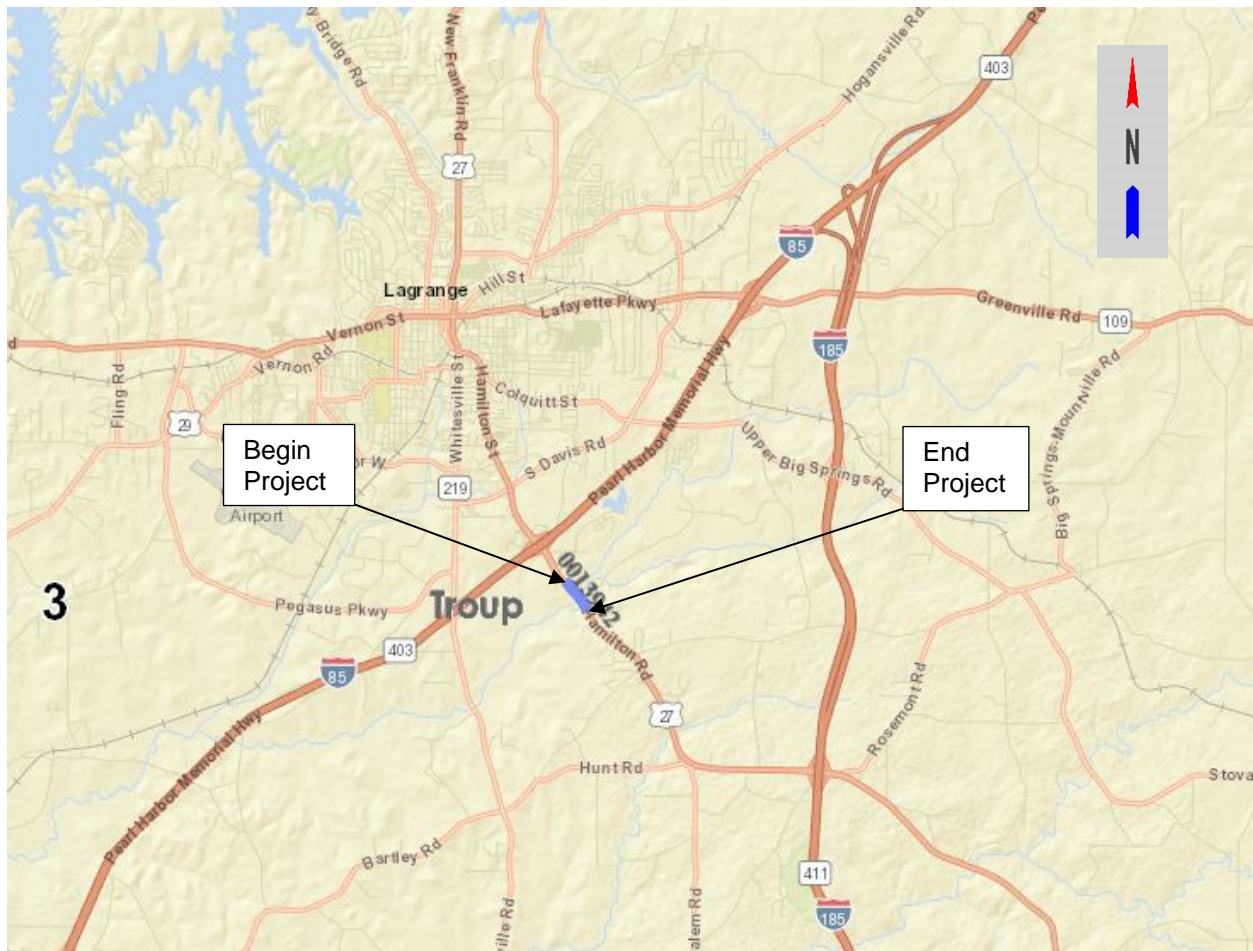
09-04-18  
Date

Approve:

*[Signature]*  
GDOT Chief Engineer

9/7/18  
Date

## PROJECT LOCATION MAP



**NOT TO SCALE**

**SR 1/US 27 BRIDGE REPLACEMENT AT LONG CANE CREEK,  
P.I. 0013942, TROUP COUNTY**



## PLANNING & BACKGROUND DATA

### Project Justification Statement:

The bridge on SR 1(US 27) over Long Cane Creek, Structure ID 285-0006-0, was built in 1948. This bridge consists of three (3) spans of steel beams on concrete caps with concrete encased steel piles. The bridge was designed using an H-15 vehicle, which is below current design standards. This bridge is classified as functionally obsolete due to the narrow gutter-to-gutter width of only 23.8 feet. A structural analysis of this bridge shows that it has no reserve capacity for the tandem truck in the superstructure. The overall condition of this bridge would be classified as fair. The deck is in satisfactory condition with moderate cracking with efflorescence and spalls with exposed rebar. The superstructure is in satisfactory condition with corrosion and section loss in the steel beams at the bearing areas. The substructure is in fair condition with moderate cracking at the abutments and exposure of the steel piles in the interior bents under the encasements. These exposed piles exhibit signs of rust swell and minor section loss. This bridge is classified as having an unknown foundation and exhibits signs of scour at the interior bents. Due to the age of the structure, the structural analysis of the bridge, the unknown foundation of the substructure, and the functional obsolescence of the bridge, replacement of this 69-year-old bridge is recommended.

**Existing conditions:** The project is located on SR 1(US 27) in Troup County. It currently consists of two 12-foot lanes and 7-foot rural shoulders (2' paved, 5' turf). The bridge over Long Cane Creek currently consists of two 12-foot lanes.

**Other projects in the area: PI 0008671, Reconstruction/Rehabilitation SR 1/US 27 from I-185 to I-85(2051)**

**MPO:** N/A - not in an MPO

**TIP #:**

**Congressional District(s):** 3

**Federal Oversight:** ☐PoDI ☒Exempt ☐State Funded ☐Other

**Projected Traffic:** AADT 24 HR T: 7.0%  
Current Year (2018): 12050 Open Year (2020): 12400 Design Year (2040): 16700  
Traffic Projections Performed by: BAKER  
Date approved by the GDOT Office of Planning: TBD

**Functional Classification (Mainline):** Rural Principal Arterial

**Complete Streets - Bicycle, Pedestrian, and/or Transit Standards Warrants:**

Warrants met: ☒None ☐Bicycle ☐Pedestrian ☐Transit

### Pavement Evaluation and Recommendations

Initial Pavement Evaluation Summary Report Required? ☒No ☐Yes  
Initial Pavement Type Selection Report Required? ☒No ☐Yes  
Feasible Pavement Alternatives: ☒HMA ☐PCC ☐HMA & PCC

## DESIGN AND STRUCTURAL

**Description of Proposed Project:** Replace existing 120' long bridge with a new 150' bridge with a bridge clear width of 40'. A temporary 2-lane on-site detour and bridge shall be utilized to route traffic around the project work area. Project length is approximately 0.3 miles in length.

### Major Structures:

Structure ID	Existing	Proposed
285-0006-0	120 foot steel pile and concrete Bridge, 32.2 ft bridge deck width, paved with bituminous asphalt, 30° Skew	-150' Bridge with 40' bridge clear width- 8ft shoulder+24ft Traveled Way+8ft shoulder, 30° Skew - Raise Grade approximately 6'

**Accelerated Bridge Construction (ABC) techniques anticipated:** ☒ No ☐ Yes

ABC techniques will not be needed due to the extended amount of time an on-site detour can be in place, no impacts to surrounding traffic, and the roadway keeps its existing functionality throughout the construction.

### Mainline Design Features:

#### SR 1/US 27-PI 013942

Feature	Existing	Policy	Proposed
<b>Typical Section</b>			
- Number of Lanes	2		2
- Lane Width(s)	12'	12'	12'
- Median Width & Type	n/a	n/a	n/a
- Outside Shoulder Width	7ft(2ft paved)	10ft (4ft paved)	10ft(4ft paved)
- Outside Shoulder Slope	Paved- 2% Unpaved- 6%	Paved- 2% to 6% Unpaved- 6% to 8%	Paved- 2% Unpaved- 6%
- Inside Shoulder Width	n/a	n/a	n/a
- Sidewalks	n/a	n/a	n/a
- Auxiliary Lanes	n/a		n/a
- Bike Accommodations	n/a	n/a	n/a
Posted Speed	55 mph		55 mph
<b>Design Speed</b>	<b>55 mph</b>	<b>50-60 mph</b>	<b>55 mph</b>
<b>Minimum Horizontal Curve Radius</b>	<b>3000'</b>	<b>1060'</b>	<b>3000'</b>
<b>Maximum Superelevation Rate</b>	<b>4%</b>	<b>6%</b>	<b>4%</b>
<b>Maximum Grade</b>	<b>6%</b>	<b>6%</b>	<b>5.9%</b>
<b>Access Control</b>	Permit	Permit	Permit
Design Vehicle	H-15		WB-67
Check Vehicle	H-15		WB-67
Pavement Type	HMA		HMA

\*According to current GDOT design policy if applicable

**Is the project located on a NHS roadway?** ☐ No ☒ Yes

**Design Exceptions/Design Variances to GDOT and/or FHWA Controlling Criteria anticipated:** None

**Design Variances to GDOT Standard Criteria anticipated:** None

**Lighting required:** ☒ No ☐ Yes

**Off-site Detours Anticipated:** ☒ No ☐ Undetermined ☐ Yes

**Transportation Management Plan [TMP] Required:** ☐ No ☒ Yes

If Yes: Project classified as: ☒ Non-Significant

TMP Components Anticipated: ☒ TTC

## INTERCHANGES AND INTERSECTIONS

**Major Interchanges/Intersections:** N/A

**Intersection Control Evaluation (ICE) Required:** ☒ No ☐ Yes

Per the office of Traffic Operations an ICE Waiver shall not be required.

**Roundabout Peer Review Required:** ☒ No ☐ Yes ☐ Completed – Date:

## UTILITY AND PROPERTY

**Railroad Involvement:** No

**Utility Involvements:** Yes; Diverse Power, AT&T, City of Lagrange Telcom, City of Lagrange Water, City of Lagrange Gas, City of Lagrange Sewer

**SUE Required:** ☐ No ☒ Yes

**Public Interest Determination Policy and Procedure recommended?** ☒ No ☐ Yes

**Right-of-Way:** Existing width: 80-150 ft. Proposed width: 80-150 ft.  
Required Right-of-Way anticipated: ☐ None ☐ Yes ☒ Undetermined  
Easements anticipated: ☐ None ☐ Temporary ☒ Permanent ☐ Utility ☐ Other

Anticipated total number of impacted parcels:	<u>6</u>
Displacements anticipated:	Businesses: <u>0</u>
	Residences: <u>0</u>
	Other: <u>0</u>
Total Displacements:	<u>0</u>

**Impacts to USACE property anticipated?** ☒ No ☐ Yes ☐ Undetermined

## CONTEXT SENSITIVE SOLUTIONS

**Issues of Concern:** The amount of disturbance in Long Cane Creek. The possibility of getting into the Sanitary Sewer Station to the South of the Roadway.

**Context Sensitive Solutions Proposed:** Build detour to the North to eliminate possibility of conflict with Sanitary Sewer Station and limit the amount of work done within the Creek.

## ENVIRONMENTAL AND PERMITS

### Anticipated Environmental Document:

**NEPA:** ☐ PCE ☒ CE ☐ EA-FONSI  
**GEPA:** ☐ Type A ☐ Type B ☒ None

### Level of Environmental Analysis:

- ☒ The environmental considerations noted below are based on preliminary desktop or screening level environmental analysis and are subject to revision after the completion of resource identification, delineation, and agency concurrence.
- ☐ The environmental considerations noted below are based on the completion of resource identification, delineation, and agency concurrence.

### Water Quality Requirements:

**MS4 Compliance – Is the project located in an MS4 area?** ☒ No ☐ Yes

**Is Non-MS4 water quality mitigation anticipated?** ☒ No ☐ Yes

### Environmental Permits, Variances, Commitments, and Coordination anticipated:

A Section 404 of the Clean Water Act (CWA) permit is expected for the bridge replacement. A buffer variance may be required for the bridge replacement since it is feasible that one of the alternatives will fall outside the 100-foot exemption area for bridge replacements.

### Air Quality:

Is the project located in an Ozone Non-attainment area? ☒ No ☐ Yes  
Carbon Monoxide hotspot analysis required? ☒ No ☐ Yes

### NEPA/GEPA Comments & Information:

Ecological Resources: One perennial stream and one potential intermittent or perennial stream have been preliminarily identified. An aquatic survey may be required. To date, protected species and their habitats have not been identified.

Historic Resources: The proposed project was screened for historic architectural resources on April 11, 2018. No NRHP listed properties, previously-identified GNAHRGIS sites, or bridges in the Georgia Historic Bridge Survey are located within the study area. Eleven properties 50 years of age or older within the APE were identified using Troup County Tax Assessor's records. These properties could be part of a single large historic district. This will be evaluated during the historic resources field survey.

Archaeological Resources: Fieldwork complete. No archaeological sites were identified in the project area. A short form is anticipated.

Air Quality: Expect a Type A MSAT Qualitative Analysis, and assume that no CO Hotspot Analysis is required. Expect no impacts or minor impacts to air quality that are not expected to affect design.

Noise Effects: Expect Type III Noise Assessment and no impacts or minor impacts that are not expected to affect design.

Public Involvement: A PIOH is expected. There are multiple community institutions in the project area that could be affected by the proposed bridge replacement, including police, fire, and emergency services, and two correctional facilities. Access, parking, and detours would also be a consideration for the a Vulcan company quarry, a large (gas likely) utility easement, small recycling facility, the Cattlemen's Association Agricultural Club, and historic homes.

## COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Is Federal Aviation Administration (FAA) coordination anticipated? ☒ No ☐ Yes

**Project Meetings:** *Consultant Kickoff Meeting- December 19, 2017, Design Status Meeting- January 4, 2018, Concept Team Meeting - May 17, 2018*

**Other coordination to date:**

Project Activity	Party Responsible for Performing Task(s)
Concept Development	Infrastructure Consulting and Engineering
Design	Infrastructure Consulting and Engineering
Right-of-Way Acquisition	GDOT
Utility Coordination (Preconstruction)	GDOT D3
Utility Relocation (Construction)	Utility Owner
Letting to Contract	GDOT
Construction Supervision	GDOT
Providing Material Pits	Contractor
Providing Detours	Contractor
Environmental Studies, Documents, & Permits	Infrastructure Consulting and Engineering
Environmental Mitigation	Infrastructure Consulting and Engineering
Construction Inspection & Materials Testing	GDOT

### Project Cost Estimate and Funding Responsibilities:

	PE Activities		ROW	Reimbursable Utilities	CST*	Total Cost
	PE Funding	Section 404 Mitigation				
Funded By	Federal/State	Federal/State	Federal/State	Federal/State	Federal/State	
\$ Amount	\$500,000.00	\$350,360.00	\$131,000.00	\$135,000.00	\$3,599,765.50	\$4,716,125.50
Date of Estimate	9/26/16	6/28/2018	5/21/2018	6/28/2018	8/6/2018	

\*CST Cost includes: Construction, Engineering and Inspection, Contingencies and Liquid AC Cost Adjustment.



## ALTERNATIVES DISCUSSION

<b>Preferred Alternative:</b> <u>Two Lane on-site detour road and bridge North of the existing roadway. Replace existing bridge with 150' X 43' bridge (8ft shoulder+24ft Traveled Way+8ft shoulder) on a 30° Skew. Raise Grade at bridge approximately 6'. This option will divert traffic to the North of the existing roadway onto a temporary on-site 2-lane bridge. The temporary roadway will be undivided with 2 -12' lanes and 2' paved outside shoulders.</u>			
<b>Estimated Property Impacts:</b>	<b>6 Parcels</b>	<b>Estimated Total Cost:</b>	<b>\$4,716,125.50</b>
<b>Estimated ROW Cost:</b>	<b>\$131,000.00</b>	<b>Estimated CST Time:</b>	<b>18 Months</b>
<b>Rationale:</b> This alternative adequately achieves the goal of raising the roadway above the FEMA flood elevation, while at the same time limiting the amount of utility impacts in the area. This alternative replaces the 69 year old bridge designed for an H-15 vehicle with a new wider bridge that meets to current standard of bridge design. This alternative allows for local emergency response agencies to have access to calls on both ends of the project without delay. This alternative limits the impacts to on-site utilities and facilities. This project option is the best option for replacing the bridge, with respects to the impact on the publics travel, operation, utility impacts, and emergency response.			

<b>No-Build Alternative:</b> Maintain existing bridge on SR-1/US-27.			
<b>Estimated Property Impacts:</b>	<b>0</b>	<b>Estimated Total Cost:</b>	<b>0</b>
<b>Estimated ROW Cost:</b>	<b>0</b>	<b>Estimated CST Time:</b>	<b>0</b>
<b>Rationale:</b> Due to the 100-yr flood overtopping a 370' length of roadway, this alternative was not a viable option. This alternative does not replace the 69 year old declining bridge.			

<b>Alternative 1:</b> <u>Two Lane On-site detour road and bridge South of the existing roadway. Replace existing bridge with 150' X 43' bridge (8ft shoulder+24ft Traveled Way+8ft shoulder) on a 30° Skew. Raise Grade at bridge approximately 6'. This option will divert traffic to the south of the existing roadway onto an on-site temporary 2-lane bridge. The temporary roadway will be undivided with 2 12' lanes and 2' paved outside shoulders.</u>			
<b>Estimated Property Impacts:</b>	<b>6 Parcels</b>	<b>Estimated Total Cost:</b>	<b>\$4,783,316.47</b>
<b>Estimated ROW Cost:</b>	<b>\$128,000.00</b>	<b>Estimated CST Time:</b>	<b>22 Months</b>
<b>Rationale:</b> The detour provides limited clearance between the existing bridge to build the proposed bridge and adjust the grade of the existing roadway. The sanitary sewer station just South of the proposed detour would be impacted by the detour and limits the amount of clearance provided. Impacts to the substation would raise the total construction costs of the project. Impacts to the substation could also cause delays in construction time. This option also requires the relocation of more power poles than the preferred alternative. The relocations efforts could possibly extend the total construction time needed for this project.			

County: Troup

<b>Alternative 2:</b> Offsite Detour Route. Replace existing bridge with 150' X 43' bridge (8ft shoulder+24ft Traveled Way+8ft shoulder) on a 30° Skew. Raise Grade at bridge approximately 6'. This option will divert traffic around the project using in-place infrastructure while SR 1/US 27 is closed for bridge construction. Traffic approaching the project shall be routed off of SR 1/US 27 onto I-85 and I-185, then back onto SR 1/US 27.			
<b>Estimated Property Impacts:</b>	<b>2 Parcels</b>	<b>Estimated Total Cost:</b>	<b>\$3,429,534.94</b>
<b>**Estimated ROW Cost:</b>	<b>\$128,000.00</b>	<b>Estimated CST Time:</b>	<b>12 Months</b>
<b>Rationale:</b> The detour extends the travel distance by 7.9 miles between the intersection of SR 1/US 27 & I-85 and SR 1/US 27 & I-185, which is more than double the current travel distance. Multiple State and County facilities are to the south of the project, on the opposite side from the majority of residents and businesses located in the city of Lagrange. Closing the roadway to replace the bridge at Long Cane Creek would prevent emergency personnel from responding to emergencies north of the project site in a timely manner. Emergency response times could be extended by as much as 20 minutes (approximately). Institutions affected by this road closure would include Troup County Fire Department, Georgia State Patrol, Troup County Sheriff's Office, Troup County Correctional Facility, and the Troup County Road Department. Troup County Fire Trucks would have to travel SE to the detour before they could take the detour to reach fires as close as 1 mile away. Georgia State Patrol officers will no longer have access to I-85 within a mile. This detour will extend the distance to I-85 from less than 1 mile to approximately 5.7 miles using local roads, and 10.8 miles using the signed detour. The impact on time for the detour is not only constrained to the local emergency personnel; it includes the traveling public whom shall be forced onto local roads or the signed detour causing an increase in traffic for a prolonged period of time. See attachments for depictions of the aforementioned alternative.			

**\*\* Estimated ROW Cost used for Alternative 2 is an estimate based on the ROW estimate done in association with Alternative 1.**

**Additional Comments/ Information:**

## **LIST OF ATTACHMENTS/SUPPORTING DATA**

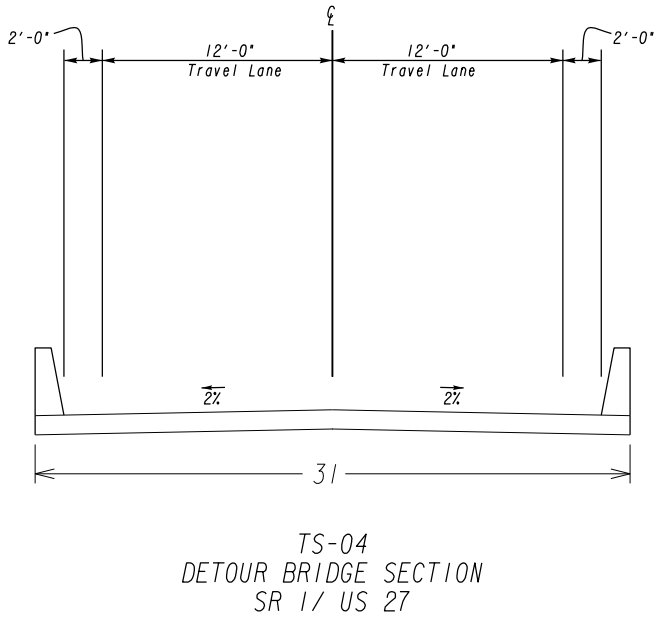
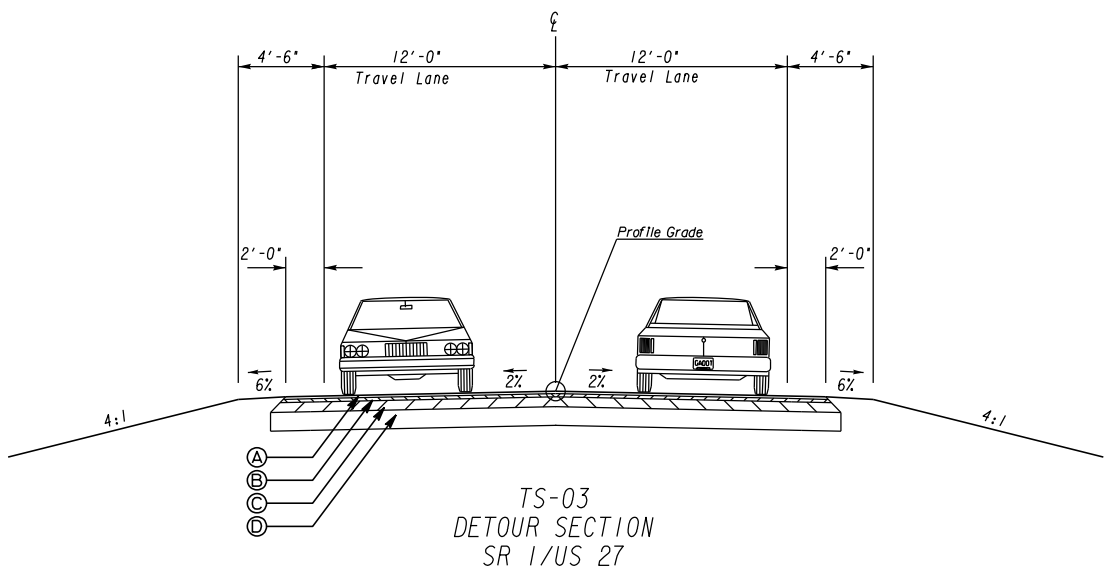
1. Concept Layout
2. Typical sections
3. Alternative 1 Layout
4. Alternative 2 Detour Map
  - a. Municipal Location Map
5. Bridge Inventory Data Sheet
6. Cost Estimates
7. Traffic
  - a. Traffic Memo
  - b. Traffic Diagrams
8. Meeting Minutes





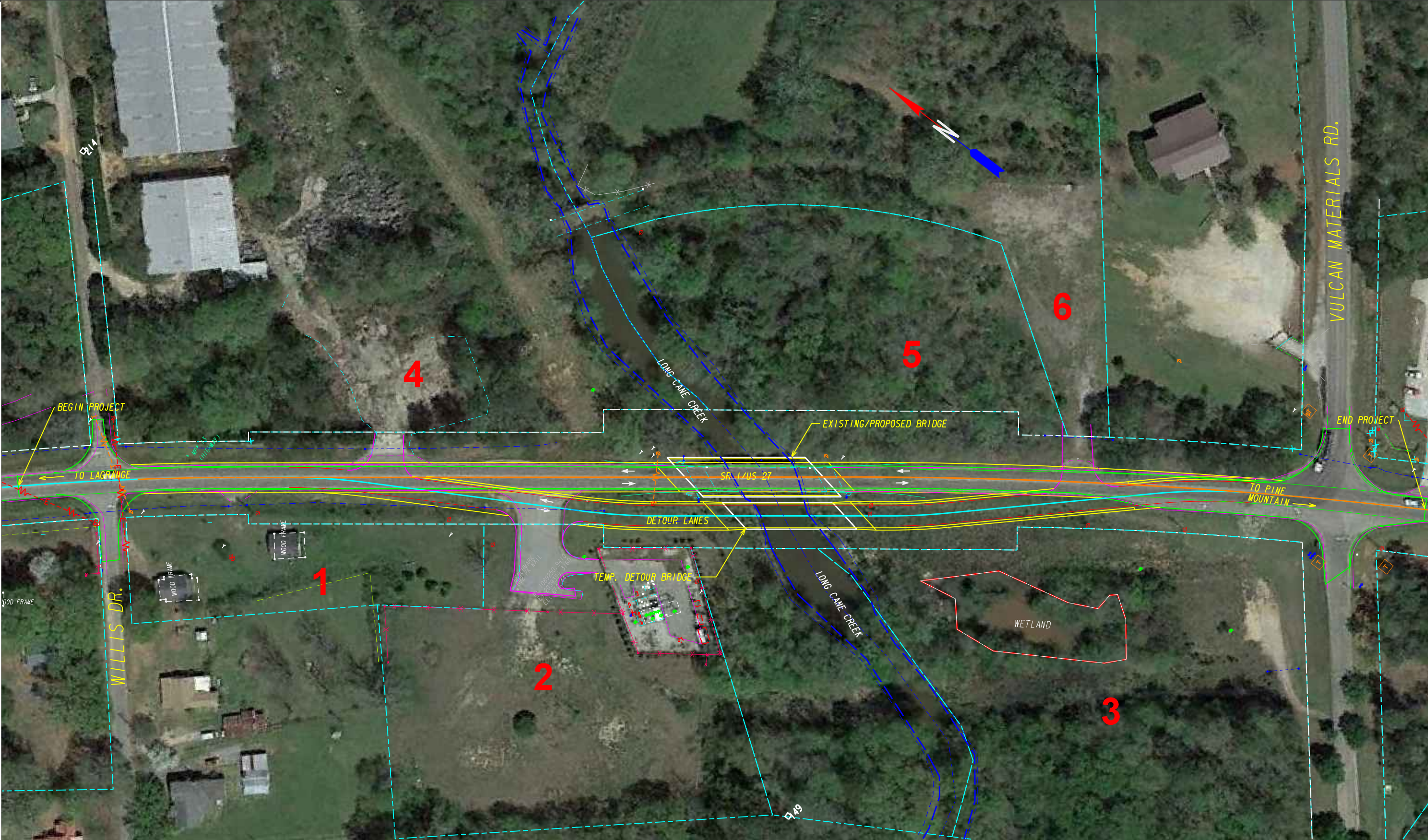


REVISION DATES			<div>TYPICAL SECTIONS</div> <div>SR 1 / US 27 @ LONG CANE CREEK</div> <div>TROUP</div>				
			CHECKED:		DATE:		DRAWING No.
			BACKCHECKED:		DATE:		
			CORRECTED:		DATE:		
			VERIFIED:		DATE:		
							05-PREF.



- Ⓐ 1.5"-RECYCL AC 12.5MM SP, SP2, BM&HL
- Ⓑ 2.0"-RECYCL AC 19MM SP, SP2, BM&HL
- Ⓒ 3.0"-RECYCL AC 25MM SP, SP2, BM&HL
- Ⓓ GR AGGR BS CRS 10" INCL MATL





ALTERNATE 1

**CROY**  
ENGINEERING

Engineers  
Planners  
Surveyors

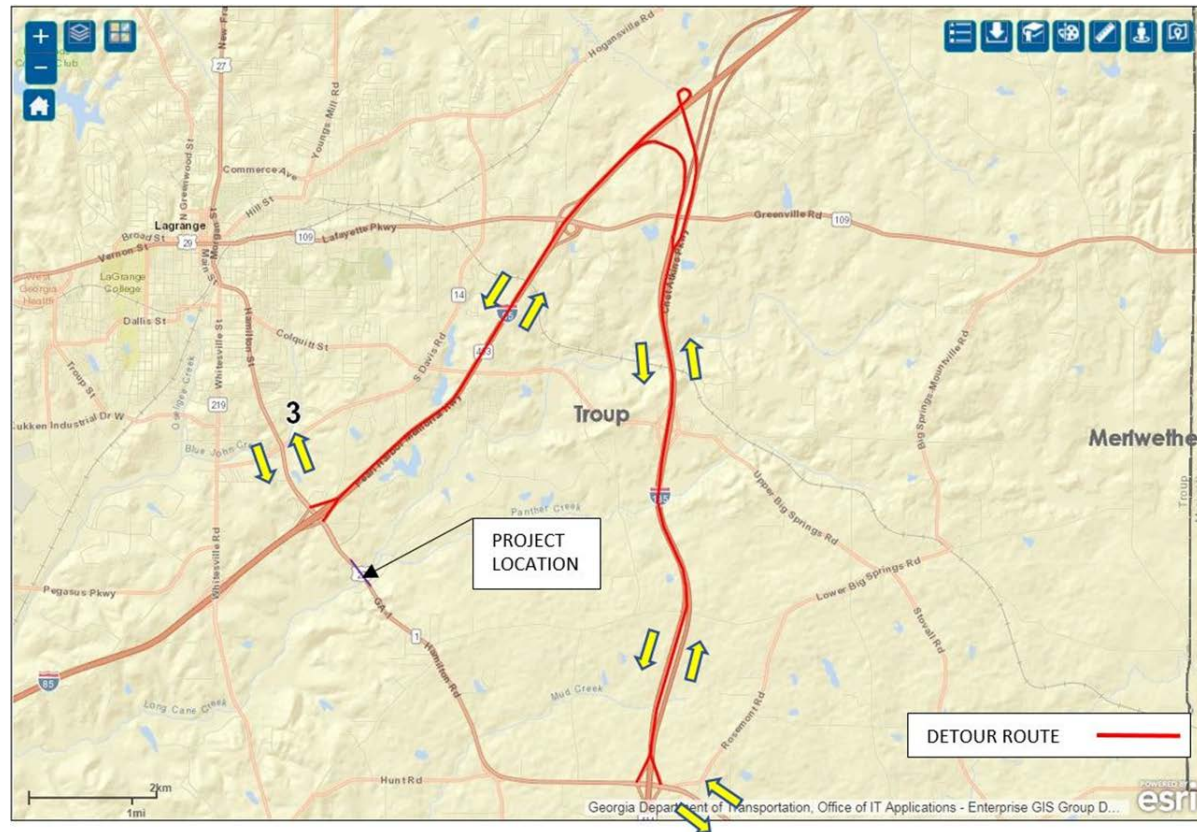
200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413  
MARIETTA, GA 30062  
PHONE: (770) 971-5407 FAX: (770) 971-0620



REVISION DATES				CONSTRUCTION PLAN			
				SR 1/US 27 @ LONG CANE CREEK			
				TROUP COUNTY			
CHECKED:		DATE:		DRAWING No.			
BACKCHECKED:		DATE:		13-CONCEPT			
CORRECTED:		DATE:					
VERIFIED:		DATE:					



**PROJECT DETOUR MAP: PI No. 0013942, TROUP COUNTY**  
**SR 1/US 27 @ LONG CANE CREEK 3.5 MI SE OF LAGRANGE**  
**DETOUR LENGTH IS 12.8 MILES VS. ORIGINAL ROUTE LENGTH OF 4.9 MILES**



**NOTES:** The section of SR 1/US 27 containing PI No. 0013942 stretches between Interstate 85 and 185. Detouring this route to a roadway with a functional classification of Principal Arterial or better requires a 7.9 mile increase in route length. Multiple State and county facilities are to the South of the project. Closing the roadway to replace the bridge at Long Cane Creek would prevent emergency personnel from responding to emergencies north of the project site in a timely manner. Institutions affected by this road closure would include Troup County Fire Department, Georgia State Patrol, Troup County Sheriff's Office, and the Troup County Road Department.





# Bridge Inventory Data Listing Georgia Department of Transportation

Processed Date:1/9/2018

## Parameters: Bridge Serial Number

Bridge Serial Number: 285-0006-0

County: Troup

SUFF. RATING: 46.1

### Location & Geography

**Structure ID:** 285-0006-0  
 200 Bridge Information: 06  
 \*6 Feature Intersected: LONG CANE CREEK  
 \*7A Route Number Carried: SR00001  
 \*7B Facility Carried: US 27/ SR 1  
 9 Location: 3.5 MI SE OF LAGRANGE  
 2 GDOT District: 4841300000 - D3 District Three Thomaston  
 \*91 Inspection Frequency: 24 Date: 12/19/2017  
 92A Fracture Critical Insp. Freq: 0 Date: 02/01/1901  
 92B Underwater Insp Freq: 60 Date: 03/18/2015  
 92C Other Spc. Insp Freq: 0 Date: 02/01/1901  
 \* 4 Place Code: 00000  
 \*5A Inventory Route(O/U): 1  
 5B Route Type: 2 - U.S. Numbered  
 5C Service Designation: 1- Mainline  
 5D Route Number: 00027  
 5E Directional Suffix: 0. Not applicable  
 \*16 Latitude: 32 - 59.4858  
 \*17 Longitude: 85 - 0.2778  
 98A Border Bridge: 0 98B: GA% 00  
 99 ID Number: 0000000000000000  
 \*100 STRAHNET: 0- The Feature is not a STRAHNET route.  
 12 Base Highway Network: Yes  
 13A LRS Inventory Route: 2851000100  
 13B Sub Inventory Route: 0  
 101 Parallel Structure: N. No parallel structure exists  
 \*102 Direction of Traffic: 2- Two Way  
 \*264 Road Inventory Mile Post: 12.87  
 \*208 Inspection Area: Area 03  
 \*104 Highway System: 1-Inventory Route is on the NHS  
 \*26 Functional Classification: 14- Urban - Other Principal Arterial  
 \*204A Federal Route Type: F - Primary.  
 \*204B Federal Route Number: 00111  
 105 Federal Lands Highway: 0. Not applicable  
 \*110 Truck Route: 0- The Feature is not part of the National Network for Trucks  
 217 Benchmark Elevation: 0000.00  
 \* Location ID No: 285-00001D-013.22N

### 218 Datum:

\*19 Bypass Length: 7  
 \*20 Toll: 3- On a Free Road or Non-Highway  
 \*21 Maintenance Responsibility: 01-State Highway Agency.  
 \*22 Owner: 01-State Highway Agency.  
 \*31 Design Load: 2- H 15  
 37 Historical Significance: 5- Not eligible for the National Register of Historic Places  
 205 Congressional District: 003  
 27 Year Constructed: 1948  
 106 Year Reconstructed: 0  
 33 Bridge Median: 0-None  
 34 Skew: 30  
 35 Structure Flared: No  
 38 Navigation Control: 0- Navigation is not controlled by an Agency  
 213 Special Steel Design: 0- Not applicable or other  
 267A Type Paint Super Structure: 5- Waterborne System (Type VI or VII) Year : 1997  
 267B Type Paint Sub Structure: 1- Lead Chromate Oil Alkyd System Year : 1948  
 \*42A Type of Service On: 1-Highway  
 \*42B Type of Service Under: 5-Waterway  
 214A Movable Bridge: 0  
 214B Operator on Duty: 0  
 203 Type Bridge: E - Steel pile. N. Steel-Concrete M. Steel O. Concrete  
 259 Pile Encasement: 1  
 \*43A Structure Type Main material: 3-Steel  
 \*43B Structure Type Main Type: 2-Stringer/Multi-Beam or Girder  
 45 Number of Main Spans: 3  
 44 Structure Type Approach: A:0- Other B: 0- Other  
 46 Number of Approach Spans: 0  
 226 Bridge Curve: A: Vertical: YesB: Horizontal: No  
 111 Pier Protection: N - Navigation Control item coded 0, or Feature not a waterway  
 107 Deck Structure Type: 1 - C-I-P Portland Cement Concrete - Epoxy Coated Rebars  
 108A Wearing Surface Type: 6. Bituminous  
 108B Membrane Type: 8. Unknown  
 108C Deck Protection: 8. Unknown  
 265 Underwater Inspection Area: 2

### Signs & Attachments

225 Expansion Joint Type: 15- Evazote Joint.  
 242 Deck Drains: 1- Open Scuppers.  
 243A Parapet Location: 0- None present.  
 243B Parapet Height: 0.00  
 243C Parapet Width: 0.00  
 238A Curb Height: 1.0  
 238B Curb Material: 1- Concrete.  
 239A Handrail Left: 1- Concrete.  
 239B Handrail Right: 1- Concrete.  
 \*240 Median Barrier Rail: 0- None.  
 241A Bridge Median Height: 0  
 241B Bridge Median Width: 0  
 \*230A Guardrail Location Direction Rear: 3- Both sides.  
 \*230B Guardrail Location Direction Fwrd: 3- Both sides.  
 \*230C Guardrail Location Opposing Rear: 0- None.  
 \*230D Guardrail Location Opposing Fwrd: 0- None.  
 244 Approach Slab: 3- Forward and Rear.  
 224 Retaining Wall: 0- None.  
 233 Posted Speed Limit: 55  
 236 Warning Sign: Yes  
 234 Delineator: Yes  
 235 Hazard Boards: Yes  
 237A Gas: 00- Not Applicable  
 237B Water: 00- Not Applicable  
 237C Electric: 00- Not Applicable  
 237D Telephone: 31- Side Left.  
 237E Sewer: 00- Not Applicable  
 247A Lighting: Street: No  
 247B Navigation: No  
 247C Aerial: No  
 \*248 County Continuity No.: 10  
 36A Bridge Railings: 2- Inspected feature meets acceptable construction date standards.  
 36B Transition: 2- Inspected feature meets acceptable construction date standards.  
 36C Approach Guardrail: 1- Meets current standards  
 36D Approach Guardrail Ends: 2- Inspected feature meets acceptable construction date standards.

# Bridge Inventory Data Listing Georgia Department of Transportation

Processed Date:1/9/2018

Bridge Serial Number: 285-0006-0

County: Troup

SUFF. RATING: 46.1

## Programming Data

201 Project Number: F-324 (4)  
 202 Plans Available: 1- Plans at General Office.  
 249 Proposed Project Number: 000000000000000000000000  
 250A Reconstruction Approval Status: No  
 250B Route Approval Status: No  
 250C Approval Status Definition: 0  
 250D Approval Status Federal: 0  
 251Project Identification Number: 0013942  
 252 Contract Date: 02/01/1901  
 260 Seismic Number: 00000  
 75A Type Work Proposed: 34- Widening with deck rehabilitation or replacement  
 75B Work Done by: 1- Work to be done by contract  
 94 Bridge Improvement Cost:(X\$1,000) \$469  
 95 Roadway Improvement Cost: (X\$1,000) \$47  
 96 Total Improvement Cost: (X\$1,000) \$703  
 76 Improvement Length: 1440.0'  
 97 Year Improvement Cost Based On: 2013  
 114 Future AADT: 12915  
 115 Future AADT Year: 2032

## Measurements:

\*29 AADT: 8610  
 \*30 AADT Year: 2012  
 109 % Truck Traffic: 7  
 \* 28A Lanes On: 2  
 \*28B Lanes Under: 0  
 210A Tracks On: 00  
 210B Tracks Under: 0  
 \* 48 Maximum Span Length: 40  
 \* 49 Structure Length: 120  
 51 Bridge Roadway Width: 26.0'  
 52 Deck Width: 32.2'  
 \* 47 Total Horizontal Clearance: 26.0'  
 50A Curb / Sidewalk Width Left: 2.0  
 50B Curb / Sidewalk Width Right: 2.0  
 32 Approach Rdwy. Width: 24.0'  
**\*229 Approach Roadway**  
*Rear Shoulder Left: Width: 7 Right Width:7.0 Type: 8 - Grass (Dirt).*  
*Fwd Shoulder: Left Width: 7 Right Width:7.0 Type: 8 - Grass (Dirt).*  
*Rear Pavement: Width: 24.0 Type:2- Asphalt.*  
*Forward Pavement: Width: 24.0 Type:2- Asphalt.*  
*Intersection Rear: 0 Forward:0*

## Ratings and Posting

65 Inventory Rating Method: 1-Load Factor (LF)  
 63 Operating Rating Method: 1-Load Factor (LF)  
 66A Inventory Type: 2 - HS loading.  
 66B Inventory Rating: 22  
 64A Operating Type: 2 - HS loading.  
 64B Operating Rating: 36  
**231Calculated Loads Posting Required**  
 231A *H-Modified:* 34 No  
 231B *Type3/Tandem:* 33 No  
 231C *Timber:* 43 No  
 231D *HS-Modified:* 38 No  
 231E *Type 3S2:* 52 No  
 231F *Piggyback:* 68 No  
 261 H Inventory Rating: 16  
 262 H Operating Rating: 27  
 67 Structural Evaluation: 5  
 58 Deck Condition: 6 - Satisfactory Condition  
 59 Superstructure Condition: 5 - Fair Condition  
 \* 227 Collision Damage:  
 60A Substructure Condition: 5 - Fair Condition  
 60B Scour Condition: 6 - Satisfactory Condition  
 60C Underwater Condition: 5 - Fair Condition  
 71 Waterway Adequacy: 8-Equal to present desirable criteria.  
 61 Channel Protection Cond.: 8-Equal to present desirable criteria.  
 68 Deck Geometry: 2  
 69 UnderClr. Horz/Vert: N  
 72 Approach Alignment: 6-Minor reduction of vehicle operating speed required.  
 62 Culvert: N - Not Applicable  
 70 Bridge Posting Required: 5. Equal to or above legal loads  
 41 Struct Open, Posted, CL: A. Open, no restriction  
 \* 103 Temporary Structure: No  
**232 Posted Loads**  
 232A *H-Modified:* 00  
 232B *Type3/Tandem:* 00  
 232C *Timber:* 00  
 232D *HS-Modified:* 00  
 232E *Type 3s2:* 00  
 232F *Piggyback:* 00  
 253 Notification Date: 02/01/1901  
 258 Federal Notify Date: 02/01/1901

## Hydraulic Data

113 Scour Critical: U. No Load Rating; no scour critical data entered.  
 216A Water Depth: 7.8  
 216B Bridge Height: 13.2  
 222 Slope Protection: 1  
 221A Spur Dike Rear:  
 221B Spur Dike Fwd:  
 219 Fender System: 0- None.  
 220 Dolphin:  
 223A Culvert Cover: 000  
 223B Culvert Type: 0- Not Applicable  
 223C Number of Barrels: 0  
 223D Barrel Width: 0.0  
 223E Barrel Height: 0.0  
 223F Culvert Length: 0.0  
 223G Culvert Apron: 0  
 39 Navigation Vertical Clearance: 0'  
 40 Navigation Horizontal Clearance: 0  
 116 Navigation Vertical Clear Closed: 0



STATE HIGHWAY AGENCY

JOB ESTIMATE REPORT

JOB NUMBER : 0013942\_PREF      SPEC YEAR: 13  
DESCRIPTION: SR 1 @ LONG CANE CREEK  
PREFERRED ALTERNATE

COST GROUPS FOR JOB 0013942\_PREF

COST GROUP	DESCRIPTION	QUANTITY	PRICE	AMOUNT	ACTIVE?
DRNGEA	DRAINAGE (EA)	1.000	30000.00000	30000.00	Y
UDEF	USER-DEFINED (LUMP SUM) (Erosion)	1.000	125000.00000	125000.00	Y
UDEF	USER-DEFINED (LUMP SUM) (Signing)	1.000	25000.00000	25000.00	Y
ACTIVE COST GROUP TOTAL				180000.00	
INFLATED COST GROUP TOTAL				180000.00	

ITEMS FOR JOB 0013942\_PREF

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0004	150-1000		LS	TRAFFIC CONTROL - TRAFFIC CONTROL	1.000	85000.00	85000.00
0005	150-5010		EA	TRAF CTRL,PORTABLE IMPACT ATTN	4.000	8998.85	35995.42
0010	210-0100		LS	GRADING COMPLETE - GRADIN COMPLETE	1.000	600000.00	600000.00
0015	310-1101		TN	GR AGGR BASE CRS, INCL MATL	3640.000	35.72	130029.14
0020	402-1802		TN	RECYL AC PATCHING, INCL BM&HL	100.000	147.44	14744.27
0025	402-1812		TN	RECYL AC LEVELING,INC BM&HL	200.000	117.53	23506.29
0030	402-3121		TN	RECYL AC 25MM SP,GP1/2,BM&HL	1137.000	89.95	102281.36
0035	402-3130		TN	RECYL AC 12.5MM SP,GP2,BM&HL	802.000	89.78	72007.47
0040	402-3190		TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	758.000	89.55	67885.97
0045	413-0750		GL	TACK COAT	965.000	3.09	2984.14
0050	433-1200		SY	REF CONC APPR SL/I SLOPED EDGE	284.000	186.90	53080.62
0055	540-1101		LS	REM OF EX BR, STA NO - REMOVE EXISTING BRIDGE	1.000	151000.00	151000.00
0060	543-9000		LS	CONSTR OF BRIDGE COMPLETE - COMPLETION OF PROPOSED BRIDGE(150' X40')	1.000	845000.00	845000.00
0065	541-0001		LS	DETOUR BRIDGE - TEMPORARY BRIDGE (120' X 31')	1.000	360000.00	360000.00
0070	620-0100		LF	TEMP BARRIER, METHOD NO. 1	1550.000	33.20	51462.65
0075	653-1502		LF	THERMO SOLID TRAF ST, 5 IN YEL	3580.000	0.81	2903.17
0080	653-3501		GLF	THERMO SKIP TRAF ST, 5 IN, WHI	100.000	0.95	95.18
0085	654-1001		EA	RAISED PVMT MARKERS TP 1	90.000	6.28	565.58
0090	653-1501		LF	THERMO SOLID TRAF ST 5 IN, WHI	3980.000	0.89	3575.31
0095	657-1054		LF	PRF PL SD PVMT MKG,5,WH,TP PB	380.000	5.59	2127.13
0100	657-6054		LF	PRF PL SD PVMT MKG,5,YW,TP PB	380.000	8.42	3200.93
0105	653-0120		EA	THERM PVMT MARK, ARROW, TP 2	2.000	95.31	190.64
0110	653-1704		LF	THERM SOLID TRAF STRIPE,24,WH	128.000	8.92	1142.49
0115	641-1200		LF	GUARDRAIL, TP W	900.000	21.96	19772.61
0120	641-5012		EA	GUARDRAIL ANCHORAGE, TP 12	4.000	2546.40	10185.63
0125	641-1100		LF	GUARDRAIL, TP T	100.000	71.64	7164.53
0130	632-0003		EA	CHANGEABLE MESS SIGN,PORT,TP 3	2.000	7471.07	14942.14
0135	153-1300		EA	FIELD ENGINEERS OFFICE TP 3	1.000	90833.32	90833.32



DATE : 08/06/2018  
PAGE : 2

STATE HIGHWAY AGENCY

JOB ESTIMATE REPORT

=====							
0140	432-5010	SY	MILL ASPH CONC PVMT,VARB DEPTH	533.000	7.71	4111.68	
0145	456-2015	GLM	INDENT. RUMB. STRIPS - GRND-IN-PL	1.000	3987.73	3987.73	
			(SKIP)				
-----							
ITEM TOTAL							2759775.41
INFLATED ITEM TOTAL							2759775.41
-----							
TOTALS FOR JOB 0013942_PREF							
-----							
ESTIMATED COST:							2939775.40
CONTINGENCY PERCENT ( 0.0 ):							0.00
ESTIMATED TOTAL:							2939775.40
-----							

# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

## INTERDEPARTMENT CORRESPONDENCE

**FILE** P.I. No. **0013942** **OFFICE** Program Delivery

### PROJECT DESCRIPTION

Replacement of a two lane bridge on SR 1/US 27 at Long Cane Creek 3.5 Miles South East of Lagrange in Troup county.

**DATE** August 6, 2018

**From:** Albert V. Shelby, Division Director of Program Delivery

**To:** Lisa L. Myers, State Project Review Engineer  
via Email Mailbox: [CostEstimatesandUpdates@dot.ga.gov](mailto:CostEstimatesandUpdates@dot.ga.gov)

**Subject: REVISIONS TO PROGRAMMED COSTS**

**MGMT LET DATE** 11/15/2020

**PROJECT MANAGER** Malaika Faciane

**MGMT ROW DATE**

### PROGRAMMED COSTS (TPro W/OUT INFLATION)

### LAST ESTIMATE UPDATE

CONSTRUCTION \$ 2,365,852.50

**DATE** 4/18/2018

RIGHT OF WAY \$ 55,935.00

**DATE** 4/4/2018

UTILITIES \$

**DATE**

### REVISED COST ESTIMATES

CONSTRUCTION\* \$ 3,599,765.50

RIGHT OF WAY \$ 131,000.00

UTILITIES \$ 135,000.00

\*Cost Contains **15** % Contingency

### **REASONS FOR COST INCREASE AND CONTINGENCY JUSTIFICATION:**

Estimate costs based on concept level design.

# CONTINGENCY SUMMARY

<b>A. CONSTRUCTION COST ESTIMATE:</b>	\$ 2,939,775.40	Base Estimate From CES	
<b>B. ENGINEERING AND INSPECTION (E &amp; I):</b>	\$ 146,988.77	Base Estimate (A) x	5 %
<b>C. CONTINGENCY:</b>	\$ 463,014.63	Base Estimate (A) + E & I (B) x	15 %
		<a href="#">See % Table in "Risk Based Cost Estimation" Memo</a>	
<b>D. TOTAL LIQUID AC ADJUSTMENT:</b>	\$ 49,986.70	Total From Liquid AC Spreadsheet	
<b>E. CONSTRUCTION TOTAL:</b>	\$ 3,599,765.50	(A + B + C + D = E)	

## REIMBURSABLE UTILITY COSTS

UTILITY OWNER	REIMBURSABLE COST
Diverse Power	\$ 135,000.00
<b>TOTAL</b>	<b>\$ 135,000.00</b>

### ATTACHMENTS: (File Copy in the Project Cost Estimate Folder)

Detailed Cost Estimate Printout From CES  
Liquid AC Adjustment Spreadsheet

PROJ. NO. N/A TROUP COUNTY  
P.I. NO. 0013942  
DATE 8/6/2018

CALL NO. 0/00/2016

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	Aug-18	\$ 2.729
DIESEL		\$ 3.078
LIQUID AC		\$ 541.00

Link to AC Index:  
<http://www.dot.ga.gov/PS/Materials/AsphaltFuelIndex>

#### LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)]xTMTxAPL

##### Asphalt

Price Adjustment (PA)					48641.31	\$	48,641.31
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	865.60			
Monthly Asphalt Cement Price month project let (APL)			\$	541.00			
Total Monthly Tonnage of asphalt cement (TMT)					149.85		

ASPHALT	Tons	%AC	AC ton
Leveling	300	5.0%	15
12.5 OGFC		5.0%	0
12.5 mm	802	5.0%	40.1
9.5 mm SP		5.0%	0
25 mm SP	1137	5.0%	56.85
19 mm SP	758	5.0%	37.9
	2997		149.85

##### BITUMINOUS TACK COAT

Price Adjustment (PA)					\$ 1,345.39	\$	1,345.39
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	865.60			
Monthly Asphalt Cement Price month project let (APL)			\$	541.00			
Total Monthly Tonnage of asphalt cement (TMT)					4.14477239		

##### Bitum Tack

Gals	gals/ton	tons
965	232.8234	4.14477239

##### BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)					0	\$	-
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	865.60			
Monthly Asphalt Cement Price month project let (APL)			\$	541.00			
Total Monthly Tonnage of asphalt cement (TMT)					0		

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf.Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0

**TOTAL LIQUID AC ADJUSTMENT** \$ **49,986.70**

# Consultant Validation of Final QC/QA for Construction Cost Estimate Used in This Revision To Programmed Costs

**COMPANY NAME:** Croy Engineering, LLC.

## VALIDATION OF FINAL QC/QA

**PRINTED NAME:** Andrew Romain

**TITLE:** Roadway Design Manager

**SIGNATURE:**



**DATE:** 8/6/2018

GEORGIA DEPARTMENT OF TRANSPORTATION  
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date: 5/21/18  
Revised:

Project: NA  
County: TROUP  
PI: 0013942

Description: REPLACE BRIDGE ALONG SR1/US27 AT LONG CANE CREEK  
Project Termini:

Parcels: 3

Existing ROW: VARIES  
Required ROW: VARIES

Land and Improvements \$33,960.85

Proximity Damage	\$0.00
Consequential Damage	\$0.00
Cost to Cures	\$0.00
Trade Fixtures	\$0.00
Improvements	\$0.00

Valuation Services \$22,500.00

Legal Services \$39,525.00

Relocation \$6,000.00

Demolition \$0.00

Administrative \$28,500.00

TOTAL ESTIMATED COSTS \$130,485.85

**TOTAL ESTIMATED COSTS (ROUNDED) \$131,000.00**

Preparation Credits	Hours	Signature

Prepared By:

*Chad J. Pickett*

CG#: 211009 . 5/21/2018 (DATE)

Approved By:

*Valentin C...*

CG#: 6/1/18  
6/1/18

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate



GEORGIA DEPARTMENT OF TRANSPORTATION  
PRELIMINARY ROW COST ESTIMATE SUMMARY

~~Option 1~~  
**Alternate 1**

Date: 5/21/2018

Project: NA

Revised:

County: TROUP

PI: 0013942

Description: REPLACE BRIDGE ALONG SR1/US27 AT LONG CANE CREEK

Project Termini:

Existing ROW: VARIES

Parcels:

3

Required ROW: VARIES

Land and Improvements \_\_\_\_\_ \$30,934.75

Proximity Damage \$0.00

Consequential Damage \$0.00

Cost to Cures \$0.00

Trade Fixtures \$0.00

Improvements \$0.00

Valuation Services \_\_\_\_\_ \$22,500.00

Legal Services \_\_\_\_\_ \$39,525.00

Relocation \_\_\_\_\_ \$6,000.00

Demolition \_\_\_\_\_ \$0.00

Administrative \_\_\_\_\_ \$28,500.00

TOTAL ESTIMATED COSTS \_\_\_\_\_ \$127,459.75

**TOTAL ESTIMATED COSTS (ROUNDED) \_\_\_\_\_ \$128,000.00**

Preparation Credits	Hours	Signature

Prepared By:

*Cheryl Joy-Pickett*

CG#: 211009 5/21/2018 (DATE)

Approved By:

*Valentin Pires*

CG#: (DATE) 6/1/18

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

6/1/18

## Rakeem Jackson

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**From:** Westberry, Lisa <lwestberry@dot.ga.gov>  
**Sent:** Thursday, June 28, 2018 12:00 PM  
**To:** Faciane, Malaika; Rakeem Jackson  
**Cc:** Allen, Jordan J; Tyler McIntosh  
**Subject:** P.I. 0013942, Troup County - Estimated Mitigation Cost for Concept Report

Everyone,

As requested, the estimated mitigation costs for the subject project is **\$350,360.00**. This was based on a review of aerial photography, NWI mapping, and NRCS soil surveys and not an actual field verification. The total cost of mitigation credits could remain the same or change once the ecology field survey is complete.

If you should have any questions or need any additional information, please do not hesitate to contact me.

Thank you,

**Lisa Westberry** | Special Projects Coordinator | **Office of Environmental Services** | 600 West Peachtree Street, NW | **Atlanta, GA 30308** | 404-631-1772

---

**There's road work ahead.** And roadway work zones are hazardous for workers and the public. In fact, most victims in work zone crashes are drivers or passengers. Work zone safety is everybody's responsibility - pay attention – slow down – watch for workers - expect the unexpected. And whenever you drive, always **Drive Alert Arrive Alive** - buckle up; stay off the phone and no texting. Visit [www.dot.ga.gov](http://www.dot.ga.gov).

**Michael Baker**  
**I N T E R N A T I O N A L**

**420 Technology Parkway  
Norcross, GA 30092**

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MEMORANDUM TO: Malaika Faciane  
Georgia Department of Transportation

FROM: William Ruhsam  
Michael Baker International

DATE: July 2, 2018

SUBJECT: Traffic Assignments for PI# 0013942  
Troup County, GA  
SR 1/US 27 @ LONG CANE CREEK 3.5 MI SE OF  
LAGRANGE

Michael Baker is furnishing Traffic Assignments for the above project as follows:

**BRIDGE- ID 285-0006-0**

No Build = Build	2018 (Existing Year)	2020 (Base Year)	2022 (Base Year +2)	2040 (Design Year)	2042 (Design Year +2)
AADT	12,050	12,400	12,800	16,700	17,700
DHV (AM/PM)	1,090 / 1,090	1,120 / 1,120	1,155 / 1,160	1,510 / 1,510	1,600 / 1,605
K% (AM/PM)	9.0% / 9.0%	Same as Existing Year			
D% (AM/PM)	70.0% / 61.0%				
24 HR. T% - S.U.	4.5%				
24 HR. T% - COMB.	2.5%				
24 HR. T% - TOTAL	7.0%				
T% - S.U. (AM/PM)	4.0% / 3.0%				
T% - COMB. (AM/PM)	2.0% / 1.5%				
T% - TOTAL (AM/PM)	6.0% / 4.5%				

If you have any questions concerning this information, please contact William Ruhsam at 678-966-6612 or [bill.ruhsam@mbakerintl.com](mailto:bill.ruhsam@mbakerintl.com)

**Michael Baker**

**INTERNATIONAL**

# MEMORANDUM

**TO:** Andre Washington  
Georgia Department of Transportation  
Office of Planning

**FROM:** William Ruhsam, P.E., PTOE

**SUBJECT:** Design Traffic Methods Memo  
SR 1/US 27 @ Long Cane Creek 3.5 Mi SE of LaGrange  
Troup County, PI 0013942  
Bridge ID # 285-0006-0  
Michael Baker International Project # 164334

**DATE:** June 6, 2018

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## Project

The purpose of this project is to replace the subject bridge on SR 1/US 27 between Willis Drive and Vulcan Materials Road/Sam Walker Drive.

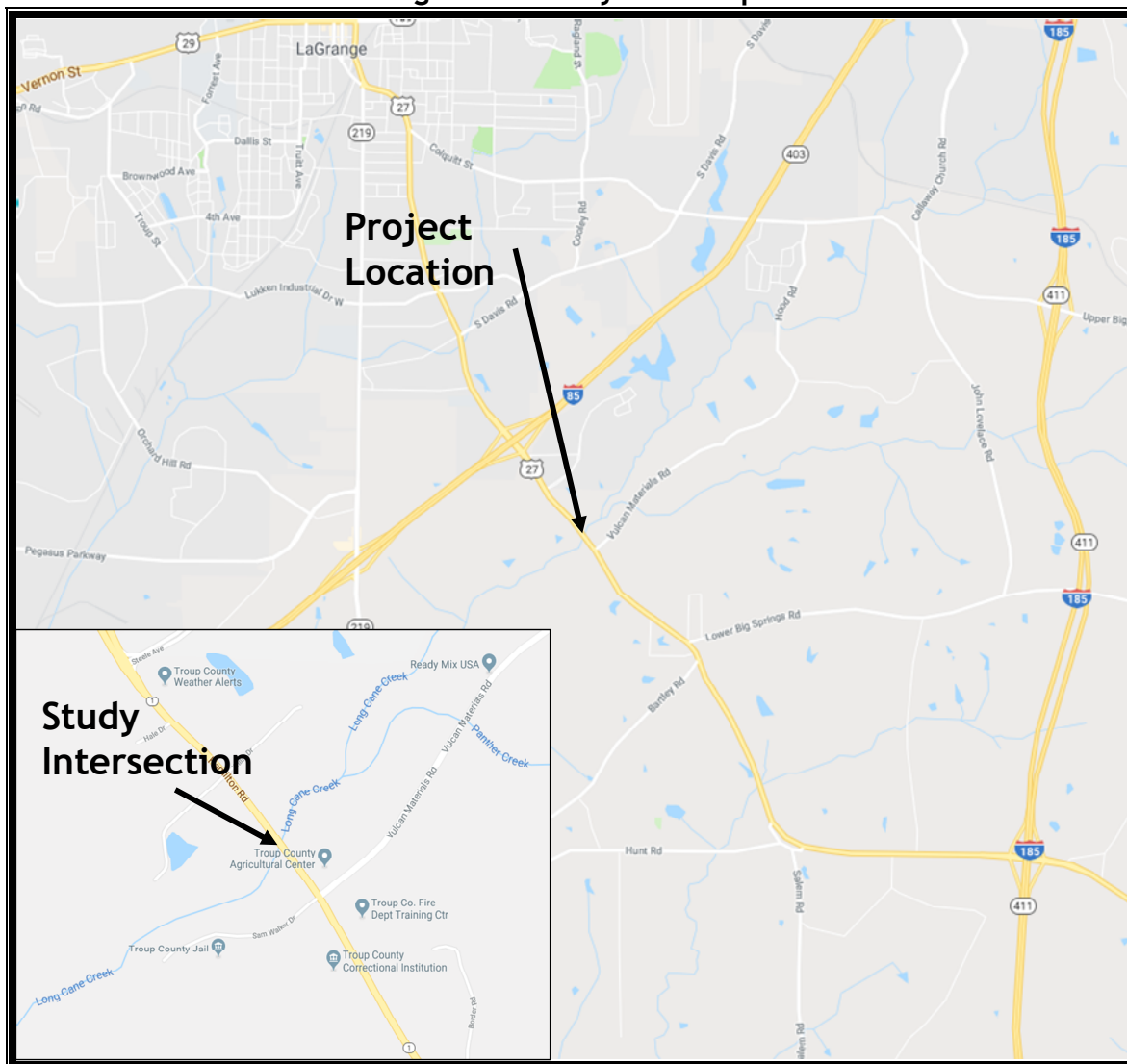
## Related projects

The following are GDOT projects in the vicinity:

### PI 0008671 - SR 1/US 27 FROM CR 188/OLD CHIPLEY ROAD TO I-185

This project is a long-range reconstruction/rehabilitation project. It currently has no defined concept and construction year is slated for 2051. It does not impact the bridge replacement traffic forecasting.

See Figure 1 for a study area map.

**Figure 1: Study Area Map**

Source: Google, Inc.

## Field Trip

A field site visit was conducted on Tuesday, February 06, 2018. Two intersections were near the bridge replacement over Long Cane Creek. An intersection south of the bridge, and an intersection north of the bridge. The intersection south of the bridge on SR 1/US 27 is a four-way intersection with Sam Walker Dr. to the west, and Vulcan Materials Rd. to the east of SR 1. The posted speed limit for SR 1/US 27 is 55 MPH and is classified as a principle arterial. The posted speed limit for Sam Walker Dr. is 15 MPH, and Vulcan Materials Rd. is 45 MPH. Sam Walker Dr. is classified as a local road that is the entrance to the Sheriff's office and county jail. Vulcan Materials Rd. is classified as a major collector that receives a high truck volume from the SR 1 southbound approach. SR 1/US 27 is a two-lane facility with a 12-foot shared lane going northbound and southbound. The southbound approach also has a dedicated right-

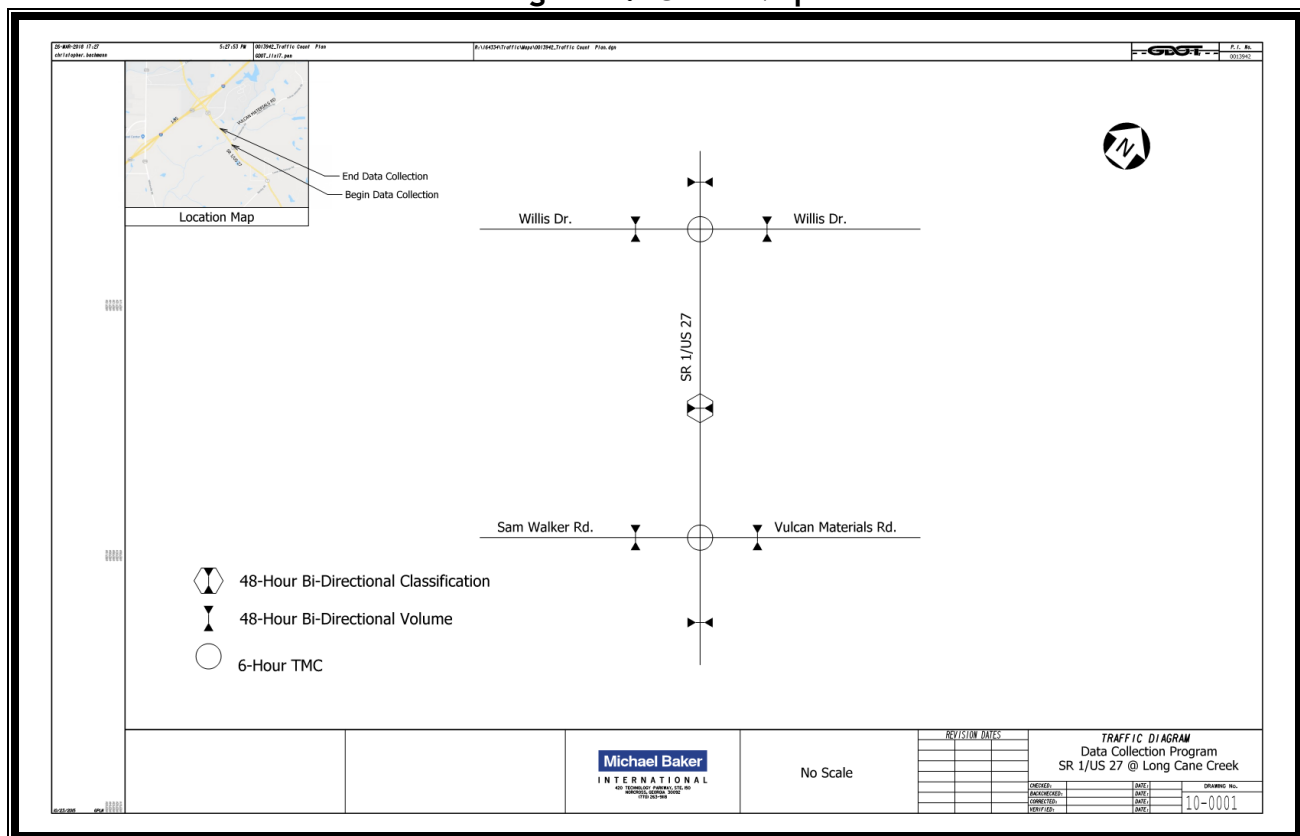
turn lane at this intersection. Both Sam Walker Dr. and Vulcan Materials road are two-lane facilities with one shared lane at each approach.

The intersection north of the bridge replacement on SR 1/US 27 is with Willis Dr. Willis Dr. is classified as a local road and has a speed limit of 15 MPH to the east of the intersection (westbound approach) with a 10-foot gravel road that leads to 3 houses, and 25 MPH west of the intersection (eastbound approach) with two 8-foot lanes. Field trip sketches are provided in Appendix A.

## Count Map

For this project classification count data was collected at one (1) location, volume count data was collected at six (6) locations, and turning movement count data was collected at two (2) locations. A count map is provided in Appendix B detailing the various locations of turning movement counts and classification counts. See Figure 2 for a count map.

**Figure 2: Count Map**



## Traffic Counts

Michael Baker conducted 6-hour turning movement counts (TMCs), 48-hour bi-directional volume counts, and 48-hour bi-directional classification counts within the study area of the project. We gathered information on adjacent roadways and intersections that might contribute to an understanding of the traffic flows in the project area. All the raw count data is provided in Appendix C. All counts were taken while school was in session.

Count data was collected on Tuesday, January 30, 2018 and Wednesday, January 31, 2018. An evaluation of the raw count data shows that the morning peak hour occurs from 7:15 to 8:15 a.m. and the afternoon peak hour occurs from 4:45 to 5:45 p.m. The count data was further analyzed to determine the K & D factors for the project area roadways, as discussed in the next section.

One traffic count was discarded due to poor data: the volume count on Willis Drive west of SR 1/US 27. To account for the volume of traffic using this roadway, the 10th Edition ITE Trip Generation Manual was used to predict daily, AM peak hour, and PM peak hour traffic for nine (9) single-family detached dwelling units. The generated trips are shown in Appendix C.

### **K & D Factor Discussion and Analysis**

A road segment's K factor represents the ratio of bi-directional peak hour traffic to the total bi-directional volume observed during the day. The D factor represents the proportion of peak hour traffic traveling the peak direction of flow for a road segment. K-values and D-factors for the project area roadways were calculated using the most recent GDOT actual traffic counts and the classification counts collected for this project. A summary of the K & D-values during each peak hour for the project area is shown in Table 1.

The K factor for the mainline is 0.09 for both the AM and PM peak hours.

The Sidestreet K factors were measured at 0.07 and 0.09 for AM and PM peak hours respectively. However, there are two factors that make the balanced existing condition K factors for the sidestreets vary significantly from the measured:

- Volumes are extremely low for three of the four legs. This makes it extremely difficult to maintain a specific K while also retaining any turning volumes.
- Discrepancies between the 48-hour volume counts and the turning movement counts for sidestreet approach and departure volumes.

Due to these two issues, the K factor for balanced sidestreet volumes was allowed to be different from the measured K factor.

K & D for "No-Build" and "Build" cases will be the same because there will be no changes in traffic characteristics.

**Table 1: K&D -Values**

Location Description	AM	PM	AM	PM
	K Value		D Factor†	
SR 1/US 27 NORTH OF WILLIS DRIVE	0.09	0.09	0.67 ↑	0.61 ↓
WILLIS DRIVE EAST OF SR 1	0.18	0.06	0.67 ←	1 →
WILLIS DRIVE WEST OF SR 1	0.09	0.12	0.62 ←	0.53 →
SR 1/ US 27 SOUTH OF WILLIS DRIVE	0.09	0.10	0.71 ↓	0.61 ↑
VULCAN MATERIALS ROAD EAST OF SR 1	0.09	0.05	0.54 ←	0.64 ←
SR 1/US 27 SOUTH OF VULCAN MATERIALS ROAD	0.10	0.09	0.68 ↑	0.71 ↓
Historical Traffic Data	AM	PM	AM	PM
	K Value		D Factor†	
SR 1/US 27 NORTH OF VULCAN MATERIALS ROAD	0.07	0.10	0.7 ↑	0.61 ↓

Source: Michael Baker International

Appendix D provides the detailed calculations of each site's K Factor and D Factor.

## Truck Percentages

The truck percentages were calculated at the one location where classification counts were performed. There are no facilities related to trucks within the project area. The 24-hour, AM, and PM peak hour truck percentages were averaged across the two days of data gathered presented in Appendix E. These raw truck percentages are shown in Table 2. The proposed truck percentages, rounded to a half-percent are shown in Table 3.

**Table 2: Summary of Truck Percentages**

#D	SR 1 - US 27 South of Willis Dr.														
	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	
7:15	NB	290	2	230	39	0	7	6	1	3	3	0	0	0	1
	SB	727	2	561	126	1	17	11	0	3	8	0	0	0	0
		1017				43				18					
					4.2%					1.8%					6.0%
4:45	NB	641	7	508	108	0	10	3	0	2	2	0	0	0	1
	SB	414	1	317	70	1	19	0	0	3	5	0	0	0	0
		1055				33				15					
					3.1%					1.4%					4.5%
24-hr T	NB	5452	50	4231	859	17	105	73	6	34	68	9	0	0	4
	SB	5546	14	4065	1035	15	178	93	1	30	114	2	1	0	0
		10998				488				262					
					4.4%					2.4%					6.8%

\* Count Station #11 traffic volumes shows deviated and high 24 hour truck percentages and peak hour truck percentages, with no truck facilities whereas AADT is within the nominal range, so it is excluded from the summary.

**Table 3: Proposed Truck Percentages**

	S.U.	Comb.	Total
24-Hour	4.5%	2.5%	7.0%
Peak	4.0%	1.5%	5.5%

Source: Michael Baker International, Inc.

## Build vs. No Build

Based on the concept plan, there is no anticipated difference in traffic volume between the build and no-build concepts. The capacity of the roadway will not be increased.



### Annual Coverage Counts, Travel Demand Model & Growth Rates

GDOT historical annualized average daily traffic (AADT) data was obtained from one (1) traffic count station in the vicinity of the project. The GDOT Traffic Count Database reports for the station are contained in Appendix F.

**Table 4: Annual Coverage Counts**

Traffic Count Station	285-0014	
Roadway	SR 1	
Location	South of Vulcan Material Rd	
Count	Volume	Type
1990	8,860	A
1991	9,027	A
1992	8,838	A
1993	8,800	A
1994	8,100	A
1995	10,400	A
1996	9,600	A
1997	10,300	A
1998	10,000	A
1999	10,600	A
2000	11,000	E
2001	11,300	E
2002	9,999	A
2003	11,520	A
2004	10,500	A
2005	8,690	A
2006	7,460	A
2007	10,290	A
2008	9,970	E
2009	9,060	A
2010	8,950	E
2011	8,800	E
2012	8,610	A
2013	8,590	E
2014	8,530	A
2015	8,770	E
2016	9,370	A

Source: Georgia Department of Transportation

**Table 5: Annual Growth Rates**

	Traffic Count Station	285-0014
	Roadway	SR 1
		South of Vulcan Material Rd
	Years	
	5-Year	2.1%
Growth Rate Using Actual Counts	10-Year	2.3%
	15-Year	-0.5%

Source: Michael Baker International

Using only actual traffic counts, the rate of growth at the was calculated for the 5, 10, and 15 year historical periods.

### Project Area Development Findings

Census summary is provided in Table 6 for the entirety of Troup County.

**Table 6: Census Summary**

	Troup	Annual Growth
2016	70,005	0.72%
2010	67,044	1.32%
2000	58,779	-

Source: [www.census.gov](http://www.census.gov)

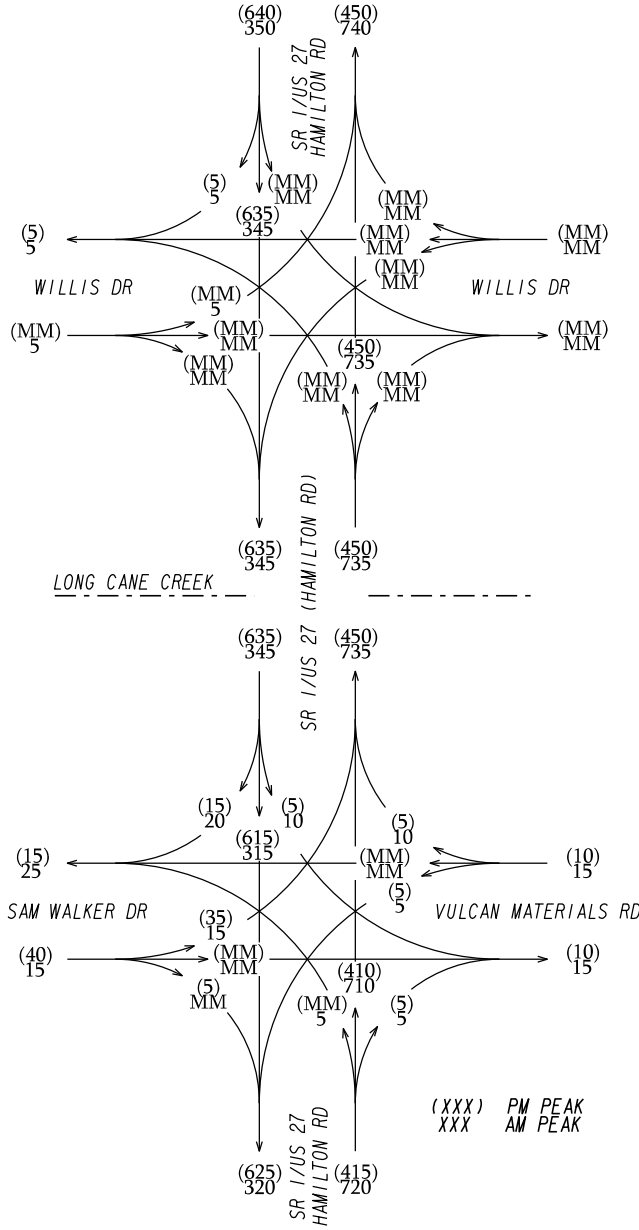
### Model Data from Statewide Travel Demand Model

Statewide Travel Demand Model growth rates for the area are shown in Table 7.

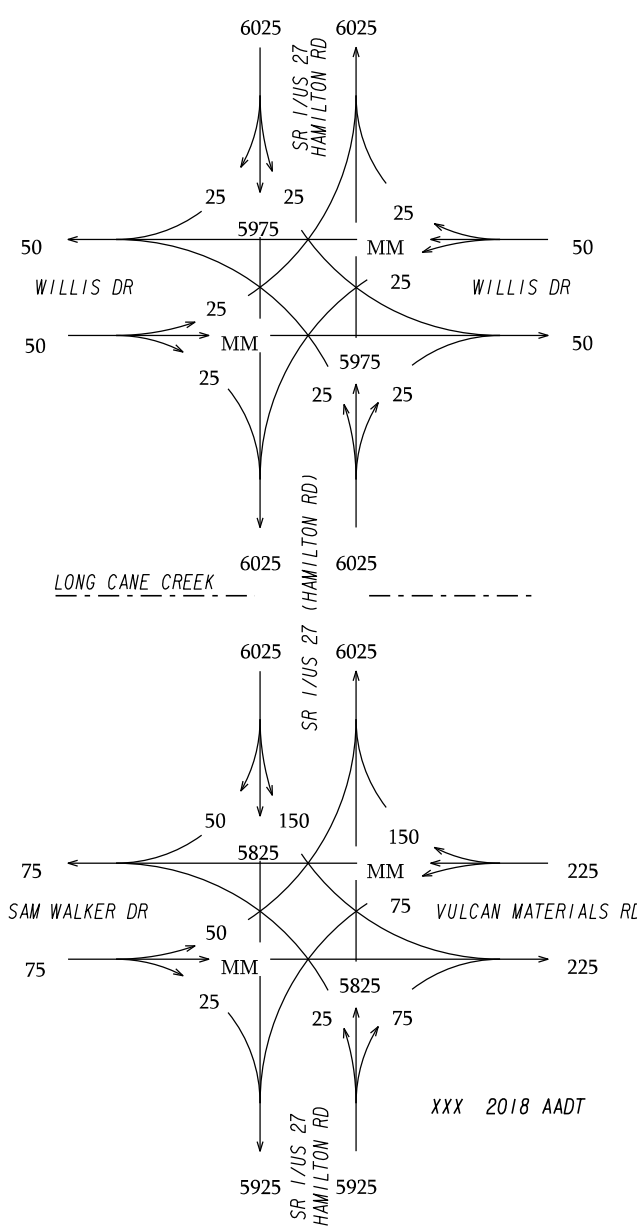
**Table 7: Growth Rate from Statewide Travel Demand Model**

	2010	2040	Rate
I-85	117,485	170,191	1.24%
SR 1/US 27	38,140	51,751	1.02%
Total	155,625	221,942	1.19%

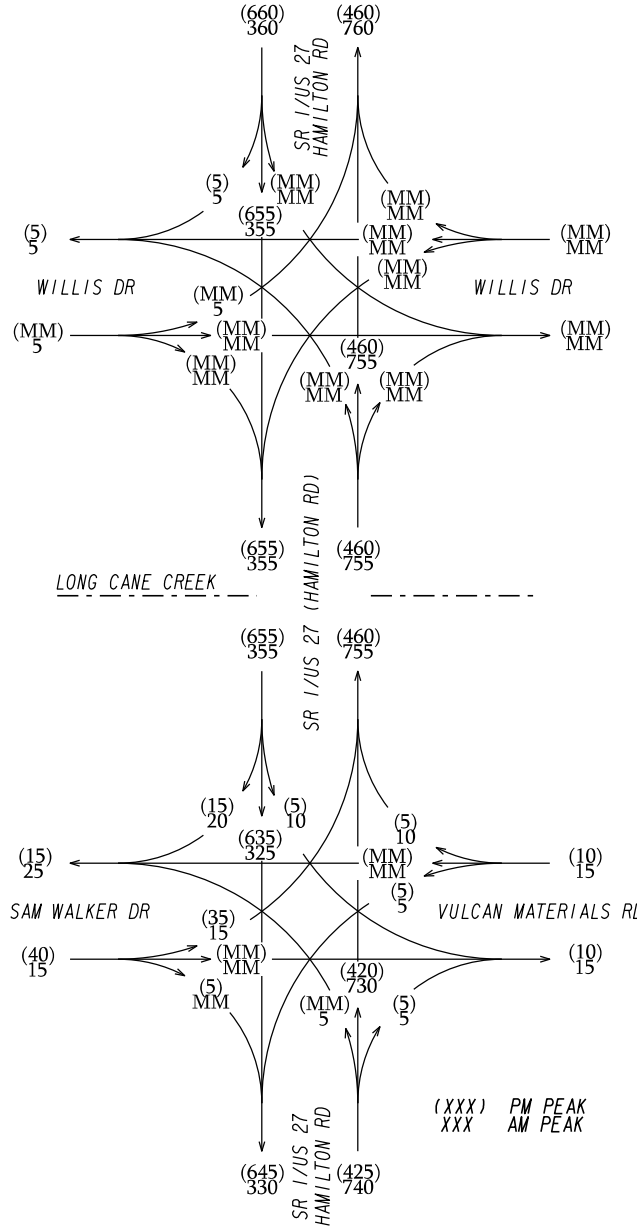
2018 PEAK HOUR  
(EXISTING)



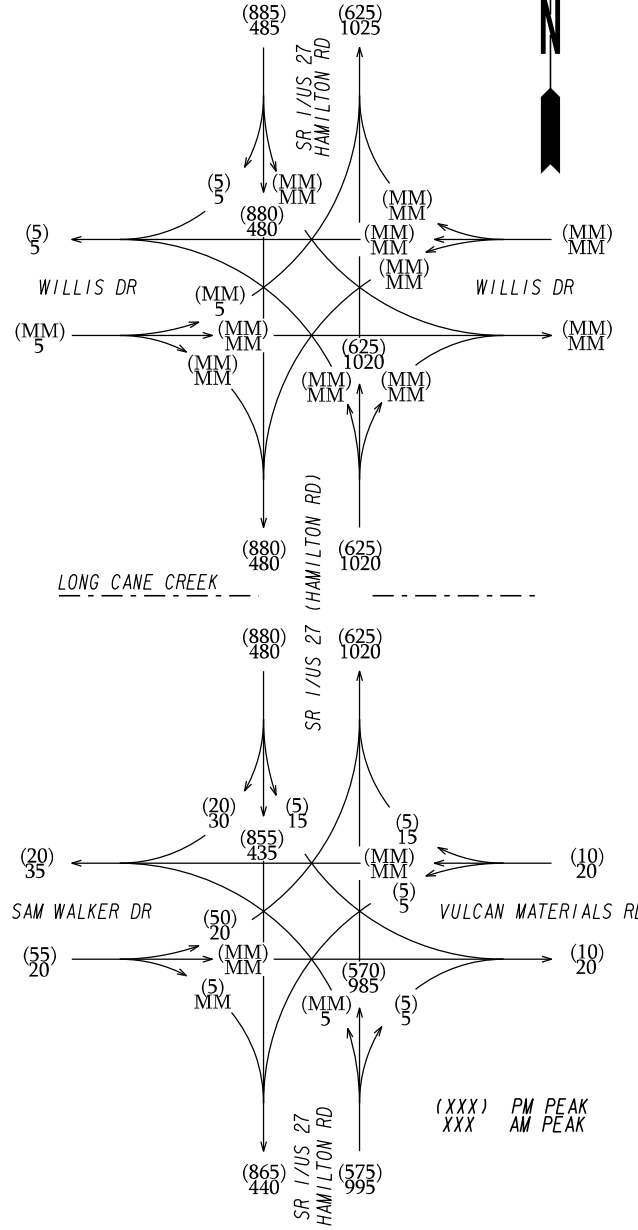
2018 AADT  
(EXISTING)



2020 PEAK HOUR  
(BASE)



2040 PEAK HOUR  
(DESIGN)



TRUCK PERCENTAGES SR 1/ HAMILTON RD			
	S.U.	Comb.	Total
24-Hour	4.5%	2.5%	7.0%
AM Peak	4.0%	2.0%	6.0%
Peak	3.0%	1.5%	4.5%

P.I. NO. 0013942  
SR 1 @ LONG CANE CREEK  
IN LAGRANGE

COUNTY: Troup

Michael Baker

INTERNATIONAL

420 Technology Parkway, Suite 150,  
Norcross, Georgia 30092  
Phone: (770) 263-9118 · MBAKERINTL.COM



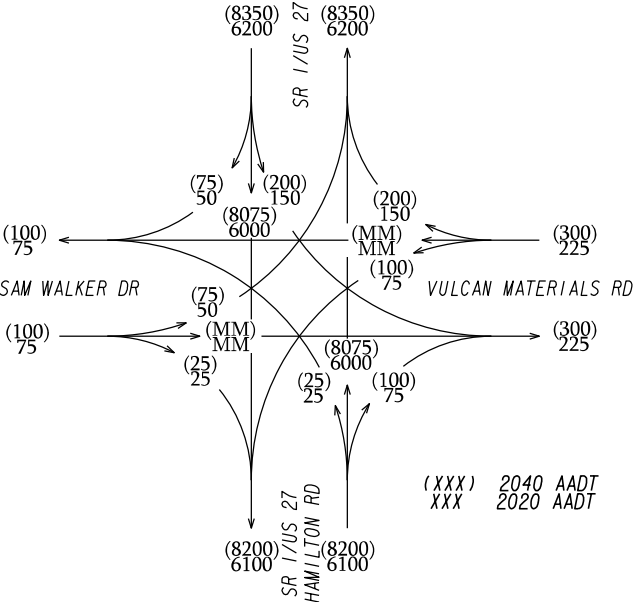
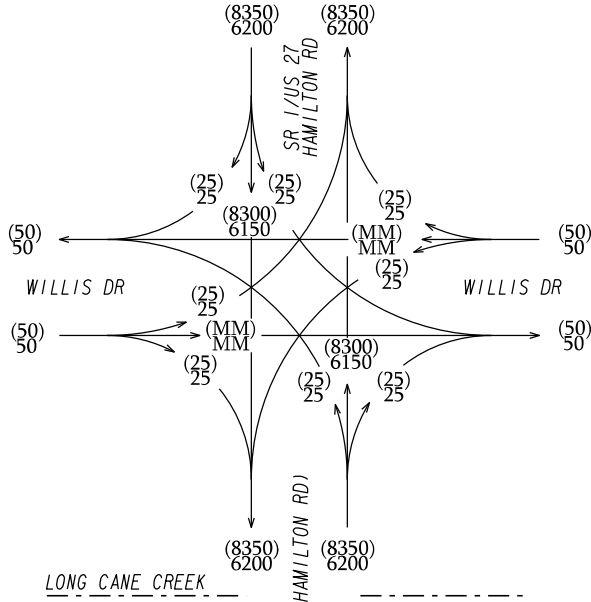
NOT TO SCALE

REVISION DATES


TRAFFIC DIAGRAM

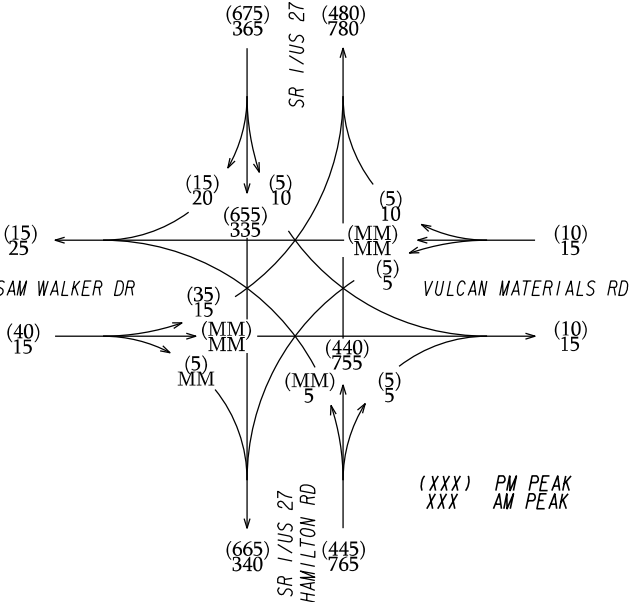
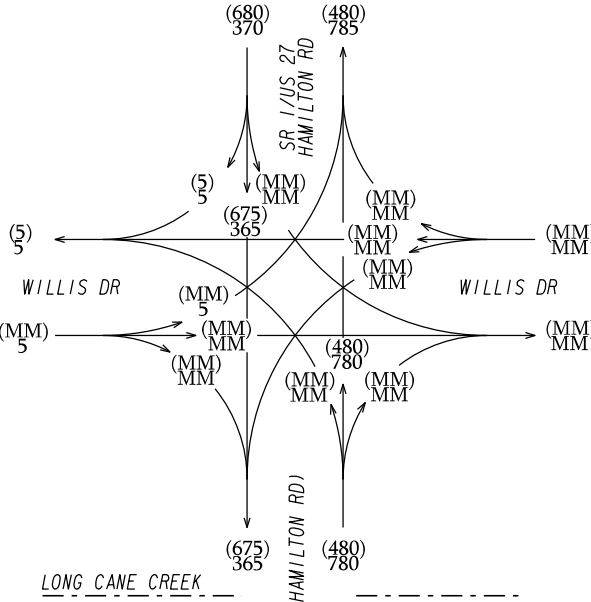
CHECKED:		DATE:		DRAWING No. 10-0001
BACKCHECKED:		DATE:		
CORRECTED:		DATE:		
VERIFIED:		DATE:		

2040/2020 AADT  
(DESIGN/BASE)



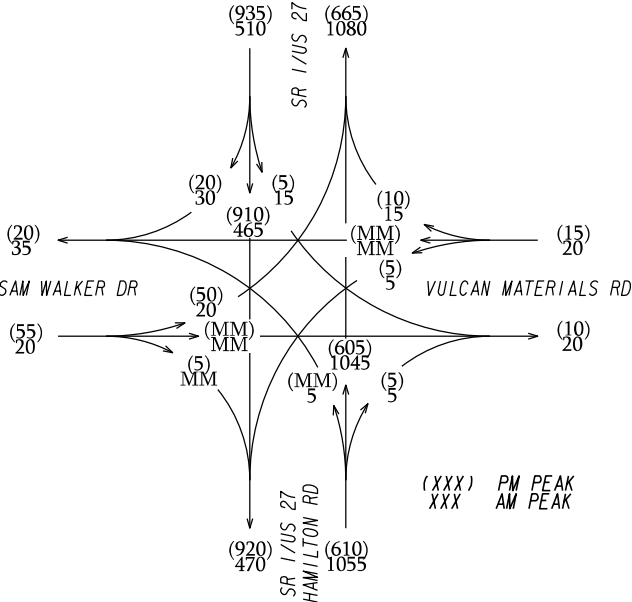
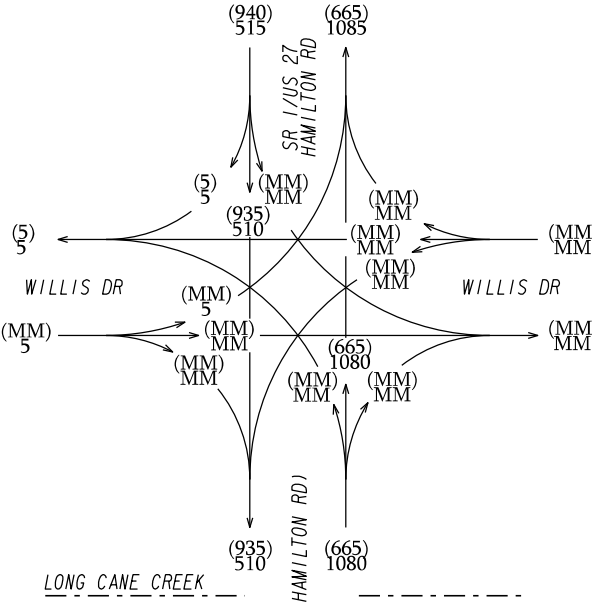
(XXX) 2040 AADT  
XXX 2020 AADT

2022 PEAK HOUR  
(BASE+2)



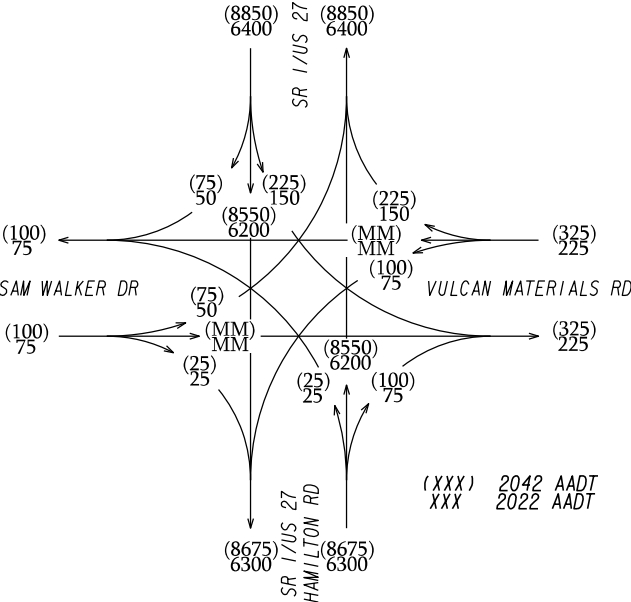
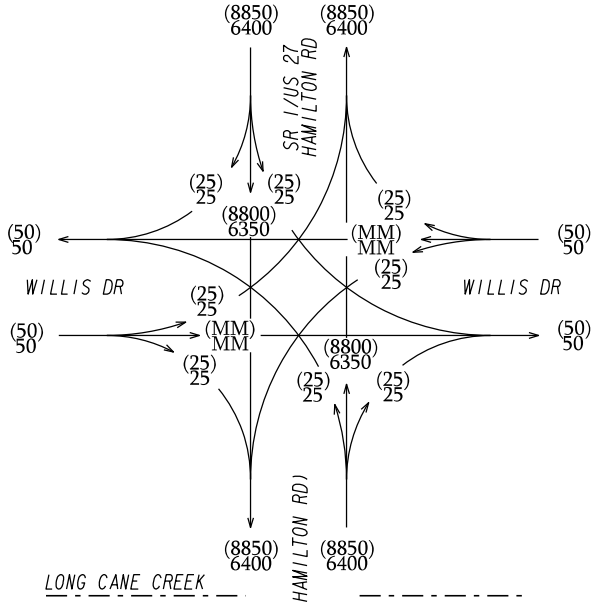
(XXX) PM PEAK  
XXX AM PEAK

2042 PEAK HOUR  
(DESIGN+2)



(XXX) PM PEAK  
XXX AM PEAK

2042/2022 AADT  
(DESIGN+2/BASE+2)



(XXX) 2042 AADT  
XXX 2022 AADT

TRUCK PERCENTAGES  
SR 1/ HAMILTON RD

	S.U.	Comb.	Total
24-Hour	4.5%	2.5%	7.0%
AM Peak	4.0%	2.0%	6.0%
Peak	3.0%	1.5%	4.5%

P.I. NO. 0013942  
SR 1 @ LONG CANE CREEK  
IN LAGRANGE

COUNTY: Troup

Michael Baker

INTERNATIONAL

420 Technology Parkway, Suite 150,  
Norcross, Georgia 30092  
Phone: (770) 263-9118 · MBAKERINTL.COM



NOT TO SCALE

REVISION DATES


TRAFFIC DIAGRAM

CHECKED:		DATE:		DRAWING No.
BACKCHECKED:		DATE:		
CORRECTED:		DATE:		
VERIFIED:		DATE:		

10-0002

# CONCEPT MEETING AGENDA – PI #0013942 Troup County

## MEETING INFORMATION

---

**Project Description:** SR 1/US 27 @ LONG CANE CREEK 3.5 MILES SOUTH EAST OF LAGRANGE

**Date:** 16 April 2018      **Time:** 2:30 p.m. – 3:15 p.m.

**Location:** D3 Office: 115 Transportation Blvd., Thomaston, GA 30286

## MEETING MATERIALS

---

- Draft Concept Report
- Project Layout
- Detour Layout

## AGENDA ITEMS

---

- Welcome
- Sign-in sheet
- Attendee Introduction
- Project Overview
- Concept Report and Layout Review
- Action Items
- Closing

# 0013942 Concept Team Meeting

## MINUTES

MAY 16, 2018

2:30 P.M.

D3 OFFICE/TELECONFERENCE

MEETING CALLED BY	Malaika Faciane
TYPE OF MEETING	Concept Team Meeting
FACILITATOR	Malaika Faciane
ATTENDEES	See the attached sign-in sheet (Andrew Romain (not listed) also attended the Concept Team Meeting)

### Agenda topics

#### PROJECT OVERVIEW

DISCUSSION	PM introduces project with brief project description and location information. Consultant bridge replacement project let in 11-12-2020.		
ACTION ITEMS		PERSON RESPONSIBLE	DEADLINE

#### CONCEPT REPORT AND LAYOUT REVIEW

DISCUSSION	Reporting engineer (sub for ICE – Croy Engineering) led meeting participants through the entirety of the report document (see attached).	
<ul style="list-style-type: none"><li>• Introductions</li><li>• After intros Andrew Romain from Croy Engineering went over the Project Overview and Concept Report</li></ul> <p>Comments were noted about the following:</p> <p><b>Design/Reporting</b></p> <ul style="list-style-type: none"><li>• Andrew Romain from Croy asks about the unused bridge to the north of the project and if there would be any impact to it; Heather Edwards from Edwards Pittman states that there is no expected impact</li><li>• James Emery from Troup Co. cites concern over keeping parcel access to property behind the substation, Andrew Romain from Croy states that access to the all parcels will be maintained for the duration of the project.</li><li>• Joshua Weddell from GDOT states concerns over Intersection Sight Distance issue at the intersections, Andrew from Croy states that raising the bridge the proposed 6 ft. will improve intersection sight distance conditions.</li></ul> <p><b>Environmental</b></p> <ul style="list-style-type: none"><li>• James Emery from Troup Co. stated to add the old palette factory to the list of sites, Heather Edwards stated that all sites will be identified in Phase 1.</li></ul> <p><b>Traffic</b></p> <ul style="list-style-type: none"><li>• No comment</li></ul> <p><b>ROW</b></p> <ul style="list-style-type: none"><li>• Not present</li></ul> <p><b>Utilities</b></p> <ul style="list-style-type: none"><li>• City of Lagrange states that the utilities are on the south side of SR 1</li><li>• City of Lagrange notes that there is a 24” sanitary sewer line easement that runs parallel to Long Cane Creek and crosses SR 1 near the bridge</li></ul>		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Clarify SUE requirements in Concept Report	Croy Engineering	5/25/18
Change Preconstruction Utility coordination to GDOT in Concept Report	Croy Engineering	5/25/18
Update ROW and Utility cost in Concept Report	Croy Engineering	5/25/18



# MEETING SIGN-IN SHEET

Project: PI 0013942 Troup

Meeting Date: 16 May 2018

Facilitator: Malaika Faciane

Place/Room: D3 Thomaston

Name	Office	Phone	E-Mail
Malaika Faciane	OPD	404-563-5008	mfaciane@dot.ga.gov
Lyn Clements	Bridge Design		
Jordan Allen	OES		
Matthew Risher	Planning		
Tyler McIntosh	ICE	404-867-2650	Tyler.McIntosh@ICE-ENG.com
Sam Wade	ICE	678-521-5111	sam.wade@ice-eng.com
JAMES EMERY	TROUP COUNTY	706-883-1713	jemery@troupc.org
Jody Perdue	City of LaGrange	706-883-2061	jperdue@lagrange.ga.org
SHELDON MINOR	D3 CONSTR	706-646-7509	Sminor@dot.ga.gov
Rakeem Jackson	CROY		rjackson@croyengineering.com
CHRIS RIDGENT	CROY	7-971-5407	CRIDGENT@CROYENGINEERING.COM
ROBERT BRISKEP	CROY	"	RBRISKEP@CROYENGINEERING.COM
Katelyn Reed	Edwards Pitman		kreed@edwards-pitman.com
Heather Edwards	EPEI	678-932-2216	hedwards@edwards-pitman.com
Joshua Waddell	GDOT D3 Design	706-646-7579	jowaddell@dot.ga.gov
GREG CROMER	GDOT UTILITIES	706-646-7604	gcromer@dot.ga.gov
Greg Smith	GDOT UTILITIES	706-646-7605	grsmith@dot.ga.gov



# GDOT INTERSECTION CONTROL EVALUATION (ICE) WAIVER FORM

ICE Version 2.13 | Revised 03/12/2018

## Waiver Request - Level 1

In certain circumstances where an ICE would otherwise be required, an ICE may be waived based on appropriate evidence presented with a written request. Scenarios in which an ICE waiver request may be considered include:

- Proposed improvements do not substantially alter the character of the intersection, and are considered minor in nature, such as extending existing turn lane(s) or modifying signal phasing at an existing traffic signal
- The intersection consists of a public roadway intersecting a divided, multilane roadway where the access will be limited to a closed median with only right-in/right-out access that will operate acceptably; or
- The intersection is along an undivided, two-lane roadway that will not be widened and meets the following criteria:
  - Low risk in terms of exposure (total intersection entering volume less than 1,000 vehicles /day)
  - Latest 5 years of crash history is not indicative of a crash problem (no discernible crash patterns coupled with low crash frequency and severity)
  - Layout has no unusual or undesirable geometric features (such as restricted sight distance)
  - The proposed changes are not expected to adversely affect safety

If only one alternative is determined to be feasible from the ICE Stage 1, then a waiver may be submitted in lieu of completing ICE Stage 2. The waiver must clearly explain why there is no other feasible alternative. A Waiver Form should also be submitted to document an agreed upon decision to select a preferred alternative other than the highest scoring alternative in Stage 2.

ICE waiver forms with supporting documentation should be submitted for approval to the Office of Traffic Operations or District Engineer (depending on Waiver level). Questions regarding the waiver process should be routed to the State Traffic Engineer.

**Project Information:**  
 Location: SR1 @ Willis Drive  
 County: Troup  
 GDOT District: 3 - Thomaston  
 Area Type: Rural  
 Existing Intersection Control: Conventional (Minor Stop)

GDOT PI # (or N/A): 0013942  
 Requested By: GDOT  
 Prepared By: Croy Engineering  
 Analyst: AST  
 Date: 6/29/2018  
 Waiver Request Type: GDOT PDP Project

## Traffic and Operations Data:<sup>1</sup>

Intersection meets signal/AWS warrants?	None	
Traffic Analysis Type:	Intersection Delay	
Existing Avg Daily Traffic (Major Street):	12,050	
Existing Avg Daily Traffic (Minor Street):	100	
Analysis Period:	AM Peak	PM Peak
2020 Opening Yr Peak Hour Intersection Delay:	32.9 sec	0.0 sec
2020 Opening Yr Peak Hour Intersection V/C:	0.04	0.00
2040 Design Yr Peak Hour Intersection Delay:	66.0 sec	0.0 sec
2040 Design Yr Peak Hour Intersection V/C:	0.08	0.00

<sup>1</sup>Crash data required for all existing intersections. ADT's required if available (from data collected or nearest GDOT count station site). Capacity data is optional unless needed to justify basis of the waiver request.

Crash Data (Required): <sup>1</sup>			
Crash Type	Crash Severity		
	Crash Data :Enter 5 most recent years of intersection crash data	PDO	Injury Crash* Fatal Crash*
Angle		0	0 0
Head-On		0	0 0
Rear End		2	0 0
Sideswipe - same		1	0 0
Sideswipe - opposite		0	0 0
Not Collision w/Motor Veh		3	2 0
<b>TOTALS:</b>		<b>6</b>	<b>2 0</b>

\* Number of crashes resulting in injuries / fatalities, not number of persons

**Description of Work / Justification for Waiver (Required):** Replacement of a two lane bridge on SR 1/US 27 at Long Cane Creek 3.5 Miles South East of Lagrange in Troup County to meet current design standards while also addressing the roadway being overtopped with water during the 100-yr storm. A waiver of an ICE Analysis is requested because the proposed bridge work does not change the intersection control or increase the footprint of the intersection.

Proposed Intersection Control: Conventional (Minor Stop)

REQUESTED BY: Daniel B. Dolny Jr  
 Title: Traffic Engineering Manager

Date: 6/29/18

APPROVED BY: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Chief Engineer or (Approved Delegate)





## GDOT INTERSECTION CONTROL EVALUATION (ICE) WAIVER FORM

ICE Version 2.13 | Revised 03/12/2018

### Waiver Request - Level 1

In certain circumstances where an ICE would otherwise be required, an ICE may be waived based on appropriate evidence presented with a written request. Scenarios in which an ICE waiver request may be considered include:

- Proposed improvements do not substantially alter the character of the intersection, and are considered minor in nature, such as extending existing turn lane(s) or modifying signal phasing at an existing traffic signal
- The intersection consists of a public roadway intersecting a divided, multilane roadway where the access will be limited to a closed median with only right-in/right-out access that will operate acceptably; or
- The intersection is along an undivided, two-lane roadway that will not be widened and meets the following criteria:
  - Low risk in terms of exposure (total intersection entering volume less than 1,000 vehicles /day)
  - Latest 5 years of crash history is not indicative of a crash problem (no discernible crash patterns coupled with low crash frequency and severity)
  - Layout has no unusual or undesirable geometric features (such as restricted sight distance)
  - The proposed changes are not expected to adversely affect safety

If only one alternative is determined to be feasible from the ICE Stage 1, then a waiver may be submitted in lieu of completing ICE Stage 2. The waiver must clearly explain why there is no other feasible alternative. A Waiver Form should also be submitted to document an agreed upon decision to select a preferred alternative other than the highest scoring alternative in Stage 2.

ICE waiver forms with supporting documentation should be submitted for approval to the Office of Traffic Operations or District Engineer (depending on Waiver level). Questions regarding the waiver process should be routed to the State Traffic Engineer.

#### Project Information:

Location: SR1 @ Vulcan Mat. Rd

County: Troup

GDOT District: 3 - Thomaston

Area Type: Rural

Existing Intersection Control: Conventional (Minor Stop)

GDOT PI # (or N/A): 0013942

Requested By: GDOT

Prepared By: Croy Engineering

Analyst: AST

Date: 6/29/2018

Waiver Request Type: GDOT PDP Project

#### Traffic and Operations Data:<sup>1</sup>

Intersection meets signal/AWS warrants?	None	
Traffic Analysis Type:	Intersection Delay	
Existing Avg Daily Traffic (Major Street):	12,050	
Existing Avg Daily Traffic (Minor Street):	550	
Analysis Period:	AM Peak	PM Peak
2020 Opening Yr Peak Hour Intersection Delay:	21.6 sec	21.2 sec
2020 Opening Yr Peak Hour Intersection V/C:	0.07	0.04
2040 Design Yr Peak Hour Intersection Delay:	45.9 sec	36.8 sec
2040 Design Yr Peak Hour Intersection V/C:	0.10	0.08

<sup>1</sup>Crash data required for all existing intersections. ADT's required if available (from data collected or nearest GDOT count station site). Capacity data is optional unless needed to justify basis of the waiver request.

Crash Data (Required): <sup>1</sup>			
Crash Type	Crash Severity		
	Crash Data :Enter 5 most recent years of intersection crash data	PDO	Injury Crash* Fatal Crash*
Angle	2	1	0
Head-On	0	0	0
Rear End	4	3	0
Sideswipe - same	0	0	0
Sideswipe - opposite	0	0	0
Not Collision w/Motor Veh	3	2	0
TOTALS:	9	6	0

\* Number of crashes resulting in injuries / fatalities, not number of persons

**Description of Work /** Replacement of a two lane bridge on SR 1/US 27 at Long Cane Creek 3.5 Miles South East of Lagrange in Troup County to meet current design standards while also addressing the roadway being overtopped with water during the 100-yr storm. A waiver of an ICE Analysis is requested because the proposed bridge work does not change the intersection control or increase the footprint of the intersection.

**Justification for Waiver (Required):** during the 100-yr storm. A waiver of an ICE Analysis is requested because the proposed bridge work does not change the intersection control or increase the footprint of the intersection.

**Proposed Intersection Control:** Conventional (Minor Stop)

**REQUESTED BY:**

*Daniel B Polyz Jr*

**Date:**

*6/29/18*

**Title:**

*Traffic Engineering Manager*

**APPROVED BY:**

**Date:**

**Name:**

Chief Engineer or (Approved Delegate)